THREE DIMENSIONAL STRUCTURES AND MODELS OF Fc RECEPTORS AND USES THEREOF

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority under 35 U.S.C. § 119(e) from U.S. Provisional Application No. 60/073,972, filed February 6, 1998, entitled "CRYSTALS, CRYSTAL STRUCTURES OF FcγRIIa, AND USES THEREOF". This application also claims priority under 35 U.S.C. § 119(e) from U.S. Provisional Application No. 60/099,994, filed September 11, 1998, entitled "THREE DIMENSIONAL STRUCTURES AND MODELS OF Fc RECEPTORS AND USES THEREOF." The entire disclosure of each of U.S. Provisional Application Nos. 60/073,972 and 60/099,994 is incorporated herein by reference.

FIELD OF THE INVENTION

The present invention relates to three dimensional structures of Fc receptors (FcR), including crystalline FcγRIIa, crystalline FcεRI, three dimensional coordinates of FcγRIIa protein, a three dimensional structure of FcγRIIa, three dimensional structures of FcR, and particularly FcεRI and FcγRIIIb, derived from the structure of FcγRIIa, models thereof, and uses of such structures and models.

BACKGROUND OF THE INVENTION

Fc receptors (FcR) are a family of highly related receptors that are specific for the Fc portion of immunoglobulin (Ig). These receptors have major roles in normal immunity and resistance to infection and provide the humoral immune system with a cellular effector arm. Receptors have been defined for each of the immunoglobulin classes and as such are defined by the class of Ig of which they bind (i.e. Fc gamma receptor (FcγR) bind gamma immunoglobulin

(IgG), Fc epsilon receptor (FcεR) bind epsilon immunoglobulin (IgE), Fc alpha receptor (FcαR) bind alpha immunoglobulin (IgA)). Among the FcγR receptors, three subfamily members have been defined; FcγRI, which is a high a affinity receptor for IgG; FcγRII, which are low affinity receptors for IgG that avidly bind to aggregates immune complexes; and FcγRIII, which are low affinity receptors that bind to immune complexes. These receptors are highly related structurally but perform different functions. The structure and function of FcγRII is of interest because of its interaction with immune complexes and its association with disease.

FcγR are expressed on most hematopoietic cells, and through the binding of IgG play a key role in homeostasis of the immune system and host protection against infection. FcγRII is a low affinity receptor for IgG that essentially binds only to IgG immune complexes and is expressed on a variety of cell types including, for example monocytes, macrophages, neutrophils, eosinophils, platelets and B lymphocytes. FcγRII is involved in various immune and inflammatory responses including antibody-dependent cell-mediated cytotoxicity, clearance of immune complexes, release of inflammatory mediators and regulation of antibody production. The binding of IgG to an FcγR can lead to disease indications that involve regulation by FcγR. For example, the autoimmune disease thrombocytopenia purpura involves tissue (platelet) damage resulting from FcγR-dependent IgG immune complex activation of platelets or their destruction by FcγR+ phagocytes. In addition, various inflammatory disease are known to involve IgG immune complexes (e.g. rheumatoid arthritis, systemic lupus erythematosus), including type II and type III hypersensitivity reactions. Type II and type III hypersensitivity reactions are mediated by IgG, which can

activate either complement-mediated or phagocytic effector mechanisms, leading to tissue damage.

The elucidation of the protein structure of FcγRIIa, FcεRI, or indeed any FcR is of importance in the formulation of therapeutic and diagnostic reagents for disease management. Until the discovery of the present invention, the structure and resulting mechanism by which FcγRIIa regulates immune responses was unknown. Thus, despite the general multifunctional role of FcγRIIa, development of useful reagents for treatment or diagnosis of disease was hindered by lack of structural information of the receptor. The linear nucleic acid and amino acid sequence of FcγRIIa have been previously reported (Hibbs et al. *Proc. Natl. Acad. Sci.* USA, vol. 85, pp. 2240-2244, 1988). Mutagenesis studies to identify regions of human FcγRIIa (Hulett et al., *Eur. J Immunol.* , vol. 23, pp. 40-645, 1993; Hulett et al., *J. Biol. Chem.*, vol. 69, pp. 15287-15293 1994; and Hulett et al., *J. Biol. Chem.*, vol. 270, pp. 21188-21194, 1995), human FcγRIIIb (Hibbs et al., *J. Immunol.*, vol. 152, p. 4466, 1994; and Tamm et al., *J. Biol. Chem.* , vol. 271, p. 3659, 1996) and mouse FcγRI (Hulett et al., *J. Immunol.*, vol. 148, pp. 1863-1868, 1991) have defined important regions of IgG binding to the FcγR. Information based on linear sequences, however, cannot accurately predict three dimensional structure of the protein and its functional domains. Huber et al. (*J. Mol. Biol.*, vol. 230, pp. 1077-1083, 1993) have described crystal formation of neonatal rat Fc receptor protein (FcRn). Burmeister et al. (*Nature*, vol. 372, pp. 336-343, 1994; and *Nature*, vol. 372, pp. 379-383, 1994) have described the structure of FcRn crystals. FcRn, however, is closely related to major histocompatability protein complex and not related to the leukocyte FcγR family by function or structure. Thus, the

protein structure of FcRn is not predictive of the FcR structure of the present invention.

FcεR are expressed on mast cells, and through the binding of IgE, trigger an inflammatory immune response which is primarily due to the release of inflammatory mediators upon degranulation of the mast cell (e.g., histamine and serotonin). Release of these mediators causes localized vascular permeability and increase in fluids in the local tissues, including an influx of polymorphonuclear cells into the site. Thus, binding of IgE to an FcεRI can lead to disease indications that involve discharge of fluids from the gut and increased mucus secretion and bronchial contraction, such indications typically being associated with diseases involving allergic inflammation. Therefore, the elucidation of protein structure of FcεRI is of importance in the formulation of therapeutic and diagnostic reagents for disease management, and in particular, for the management of diseases related to allergic inflammation and other Th2-based immune responses. As for the FcγR described above, the linear nucleic acid and amino acid sequences of human FcεRI have been previously reported (Kochan et al., 1998, *Nuc. Acid. Res.* 16:3584). Until the discovery of the present invention, however, the structure and resulting mechanism by which FcεR regulates immune responses was unknown. Thus, despite the knowledge of the general action of FcεRI, the development of useful reagents for treatment or diagnosis of disease, such as diseases associated with allergic inflammation, was hindered by lack of structural information of the receptor.

Therefore, there is a need in the art to elucidate the three dimensional structures and models of the Fc receptors, and to use such structures and models in therapeutic strategies, such as drug design.

SUMMARY OF THE INVENTION

The present invention relates to crystalline FcγRIIa and crystalline FcεRI, three dimensional coordinates of FcγRIIa protein, the three dimensional structure of FcγRIIa, three dimensional structures and models of Fc receptors (FcR) derived from the structure of FcγRIIa, including FcεRI and FcγRIIIb, and uses of such structures and models. Obtaining such crystals is an unexpected result. It is well known in the protein crystallographic art that obtaining crystals of quality sufficient for determining the structure of a protein is unpredictable. In particular, obtaining crystals of quality sufficient for determining the three dimensional (3-D) structure of FcγRIIa has not been achievable until the crystallization of FcγRIIa as disclosed in the present application. As such, determination of the three dimensional structure of FcγRIIa has not been possible until the discovery of the present invention. Additionally, until the discovery of the present invention, derivation of the three dimensional structure and models of other Fc receptor (FcR) proteins has not been possible. The present inventors are also the first to define the three dimensional structure and provide three dimensional models for drug design for FcεRI and FcγRIIIb.

Accordingly, one object of the present invention is to provide crystals of sufficient quality to obtain a determination of the three dimensional structure of FcγRIIa to high resolution, preferably to the resolution of about 1.8 angstrom. The present invention also includes methods for producing crystalline FcγRIIa.

Yet another object of the present invention is to provide crystals of FcεRI protein, preferably of sufficient quality to obtain a determination of the three dimensional structure of

FcεRI to high resolution. The present invention also includes methods for producing crystalline FcεRI.

The value of the crystals of FcγRIIa and FcεRI extends beyond merely being able to obtain such crystals. The knowledge obtained concerning the FcγRIIa crystal structure, for example, has been used by the present inventors to define the heretofore unknown tertiary structure of the FcγRIIa protein, to model and derive atomic coordinates for the heretofore unknown tertiary structure of the FcεRI protein and the heretofore unknown tertiary structure of the FcγRIIIb protein, and can be additionally used to model the heretofore unknown tertiary structure of other FcR proteins having substantially related linear amino acid sequence, such as for other members of the FcγR protein family and the FcαRI protein. There are three members of the FcγR family of proteins, FcγRI, FcγRII and FcγRIII, all of which act as immunoregulatory molecules and all of which bind to IgG. Comparison of nucleic acid and amino acid sequences of the FcγR family of receptors indicates that the receptors are highly homologous. In addition, each member of the FcγR family of receptors belongs to the Ig super family of molecules, an assignment based on well established criteria (Hulett et al. 1994, *ibid.*). Moreover, FcγRII, FcγRIII, FcεRI and FcαRI each contain Ig-like domains, indicating the similarity between these receptors. FcγRI contains three Ig-like domains. The first and second domains, however, of FcγRI are substantially homologous to the Ig-like domains of FcγRII, FcγRIII, FcεRI and FcαRI. Current methods of tertiary structure determination that do not rely on x-ray diffraction techniques and thus do not require crystallization of the protein (e.g., computer modeling and nuclear magnetic resonance techniques) enable derivation and refinement of

models of other FcγR proteins, FcεRI and FcαRI protein, extrapolated from a three dimensional structure of FcγRIIa protein. Thus, knowledge of the three dimensional structure of FcγRIIa protein has provided a starting point for investigation into the structure of all of these proteins.

Accordingly, a second object of the present invention is to provide information regarding the structure of FcγRIIa protein and models, atomic coordinates and derived three dimensional structures of other members of the FcγR family of proteins, FcεRI and FcαRI protein.

The knowledge of the three dimensional structure of FcγRIIa and models of other FcR provides a means for designing and producing compounds that regulate immune function and inflammation in an animal, including humans (i.e., structure based drug design). For example, chemical compounds can be designed to block binding of immunoglobulin to an Fc receptor protein using various computer programs and models.

Another embodiment of the present invention is to provide a three dimensional computer image of the three dimensional structure of an FcR.

Another embodiment of the present invention is to provide a computer-readable medium encoded with a set of three dimensional coordinates selected from the group of the three dimensional coordinates represented in Table 1, the three dimensional coordinates represented in Table 2, the three dimensional coordinates represented in Table 3, the three dimensional coordinates represented in Table 4, and the three dimensional coordinates represented in Table 5, wherein, using a graphical display software program, the three dimensional coordinates create an electronic file that can be visualized on a computer capable of representing said electronic file as a three dimensional image.

Accordingly, a third object of the present invention is to provide methods for using a three dimensional structure of FcR, such as FcγRIIa, and structures, coordinates and models derived using such structure, for designing reagents for the treatment and diagnosis of disease, such as by binding to or mimicking the action of FcR protein, binding to or mimicking the action of an immunoglobulin (Ig), disrupting cellular signal transduction through an FcR protein by, for example, preventing dimerization of two FcR proteins, or enhancing cellular signal transduction or binding to an FcR by, for example, enhancing dimerization of two FcR proteins.

The knowledge of the three dimensional structure of FcR also provides a means for designing proteins that have altered beneficial functions by analyzing the structure and interactions between individual amino acids of the protein. For example, therapeutic proteins having improved binding to Ig or immune complexes of Ig can be designed to be used as therapeutic compounds to prevent immune complex binding to cells or enhance biological responses such as cellular signal transduction upon binding of FcR to Ig or complexes thereof. Thus recombinant soluble FcR engineered to contain improvements can be produced on the basis of the knowledge of the three dimensional structure.

Accordingly, a fourth object of the present invention is to provide for an extrapolation of the three dimensional structure of FcR to create recombinant protein having altered biological activity.

One embodiment of the present invention is a model of an FcR protein, wherein the model represents the three dimensional structure of FcR protein, in which the structure substantially conforms to the atomic coordinates represented by Table 1. Other embodiments of the present invention are

the three dimensional structure of an FcγRIIa protein which substantially conforms to the atomic coordinates represented by Table 1; the three dimensional structure of a dimeric FcγRIIa protein which substantially conforms to the atomic coordinates represented by Table 2; the three dimensional structure of a monomeric FcεRI protein which substantially conforms to the atomic coordinates represented by Table 3; the three dimensional structure of a dimeric FcεRI protein which substantially conforms to the atomic coordinates represented by Table 4; the three dimensional structure of a dimeric FcγRIIIb protein which substantially conforms to the atomic coordinates represented by Table 5 and models representing such structures. Further embodiments of the present invention relate to a set of three dimensional coordinates of an FcγRIIa protein, wherein said coordinates are represented in Table 1; a set of three dimensional coordinates of a dimeric FcγRIIa protein, wherein said coordinates are represented in Table 2; a set of three dimensional coordinates of an FcεRI protein, wherein said coordinates are represented in Table 3; a set of three dimensional coordinates of an FcεRI protein, wherein said coordinates are represented in Table 4; and a set of three dimensional coordinates of FcγRIIIb, wherein said coordinates are represented in Table 5. The present invention also includes methods to use such structures including structure based drug design and methods to derive models and images of target FcR structures.

Another embodiment of the present invention is a composition comprising FcγRIIa protein in a crystalline form. Yet another embodiment of the present invention is a composition comprising FcεRI protein in a crystalline form.

Yet another embodiment of the present invention is a method for producing crystals of FcγRIIa, comprising combining

FcγRIIa protein with a mother liquor buffer selected from the group consisting of an acetate salt buffer and a sulphate buffer, and inducing crystal formation to produce said FcγRIIa crystals.

The present invention also includes a method for producing crystals of FcεRI, comprising combining FcεRI protein with a mother liquor buffer selected from the group consisting of an acetate salt buffer, a sodium cacodylate buffer and a sodium citrate buffer, and inducing crystal formation to produce said FcεRI crystals.

The present invention also includes a therapeutic composition that, when administered to an animal, reduces IgG-mediated tissue damage, said therapeutic composition comprising an inhibitory compound that inhibits the activity of an FcγRIIa protein, said inhibitory compound being identified by the method comprising: (a) providing a three dimensional structure of an FcγRIIa protein; (b) using said three dimensional structure to design a chemical compound selected from the group consisting of a compound that inhibits binding of FcγRIIa protein to IgG, a compound that substantially mimics the three dimensional structure of FcγRIIa protein and a compound that inhibits binding of FcγRIIa protein with a molecule that stimulates cellular signal transduction through an FcγRIIa protein; (c) chemically synthesizing said chemical compound; and (d) evaluating the ability of said synthesized chemical compound to reduce IgG-mediated tissue damage.

Another embodiment of the present invention is a therapeutic composition that is capable of stimulating an IgG humoral immune response in an animal. Yet another embodiment of the present invention is a therapeutic composition that improves the therapeutic affects of an antibody that is

administered to an animal to treat, by opsinization or FcγR-dependent effector functions (e.g. antibody-dependent FcγR-medicated cytotoxicity, phagocytosis or release of cellular mediators), a particular disease, including, but not limited to, cancer or infectious disease (e.g. oral infections such as HIV, herpes, bacterial infections, yeast infections or parasite infections). Such a therapeutic composition includes one or more stimulatory compounds that have increased binding to IgG, enhance binding of IgG to FcγR, enhance dimer formation of an FcγR and/or enhance signal transduction through the FcγR. Also included in the present invention is a method to stimulate a humoral immune response. The method includes the step of administering to an animal a therapeutic composition of the present invention.

The present invention also includes a therapeutic composition that, when administered to an animal, reduces IgG-mediated tissue damage, said therapeutic composition comprising an inhibitory compound that inhibits the activity of an FcγRIIIb protein, said inhibitory compound being identified by the method comprising: (a) providing a three dimensional structure of an FcγRIIIb protein; (b) using said three dimensional structure to design a chemical compound selected from the group consisting of a compound that inhibits binding of FcγRIIIb protein to IgG, a compound that substantially mimics the three dimensional structure of FcγRIIIb protein and a compound that inhibits binding of FcγRIIIb protein with a molecule that stimulates cellular signal transduction through an FcγRIIIb protein; (c) chemically synthesizing said chemical compound; and (d) evaluating the ability of said synthesized chemical compound to reduce IgG-mediated tissue damage.

One embodiment of the present invention is a therapeutic composition that is capable of reducing IgE-mediated responses. Such therapeutic compositions are capable of reducing IgE-mediated responses resulting from IgE-mediated hypersensitivity, IgE-mediated release of inflammatory modulators or other biological mechanisms involved in IgE-mediated recruitment of inflammatory cells that involves FcεR protein. Such a therapeutic composition of the present invention can: (1) inhibit (i.e., prevent, block) binding of FcεR protein on a cell having an FcεR protein (e.g., mast cells) to an IgE immune complex by interfering with the IgE binding site of an FcεR protein; (2) inhibit precipitation of IgE or IgE immune complexes (i.e., prevent Fc:Fc interactions between two IgE); (3) inhibit immunoglobulin-mediated cellular signal transduction by interfering with the binding of an IgE to a cell surface receptor; and (4) inhibit FcεR-mediated cellular signal transduction by interfering with the binding of a cell signal inducing molecule (i.e., a molecule that induces cellular signal transduction through an FcεR protein) to an FcεR protein. Such therapeutic compositions include one or more inhibitory compounds that inhibit binding of IgE to FcεR protein, IgE to IgE, IgE to a cell surface receptor, or a cell signal inducing molecule to FcεR protein. Also included in the present invention are methods to reduce IgE-mediated responses, such as IgE-mediated inflammation.

Another embodiment of the present invention is a therapeutic composition that is capable of stimulating a IgE humoral immune response in an animal. Yet another embodiment of the present invention is a therapeutic composition that improves the therapeutic affects of an antibody that is administered to an animal to treat, by opsinization or FcεR-dependent effector functions (e.g. phagocytosis or

release of cellular mediators), a particular disease. Such a therapeutic composition includes one or more stimulatory compounds that have increased binding to IgE, enhance binding of IgE to FcεRI, enhance dimer formation of FcεRI and/or otherwise enhance signal transduction through the FcεRI. Also included in the present invention is a method to stimulate a humoral immune response. The method includes the step of administering to an animal a therapeutic composition of the present invention.

BRIEF DESCRIPTION OF THE FIGURES

Fig. 1 is a scanned image of SDS-PAGE analysis of PsFcγRIIa protein during the purification process.

Fig. 2 is a scanned image of two-dimensional NEPHGE analysis of purified PsFcγRIIa protein.

Fig. 3 illustrates Langmuir plots of purified PsFcγRIIa protein binding to different isotypes of human immunoglobulin G.

Fig. 4 illustrates a graphical representation of the dimer of PFcγRIIa.

Fig. 5 illustrates the positions of the beta sheets in FcγRIIa Domains 1 and 2 and compares amino acid sequences of isomorphs of FcγRII.

Fig. 6 illustrates the stereo view of the FcγRIIa structure shown in Fig. 4.

Fig. 7 illustrates the location of amino acids involved in binding of FcγRIIa to IgG.

Fig. 8 illustrates an expanded view of an IgG binding region showing position and side chains of the involved amino acids.

Fig. 9 illustrates an expanded view of an IgG binding region showing amino acids which when mutated to alanine improves IgG binding to FcγRIIa.

Fig. 10 illustrates an expanded view of the region of one FcγRIIa monomer that contributes to the dimer interface.

Fig. 11 illustrates a comparison of the amino acid sequence of FcγRIIa protein with the amino acid sequences of FcγRI, FcγRIIIb and FcεRI protein.

Fig. 12 illustrates a comparison of structural features shared by FcγRIIa, FcγRI, FcγRIIIb and FcεRI proteins.

Fig. 13 illustrates a sequence alignment of the amino acid sequences of FcγRIIa and FcεRI.

Fig. 14 is a scanned image illustrating a worm representation of the structure of an FcεRI monomer.

Fig. 15 is a scanned image illustrating a worm representation of the structure of an FcεRI dimer.

Fig. 16 is a scanned image illustrating a molecular surface representation of an FcεRI dimer model.

Fig. 17 is a schematic representation of target sites in the FcR structure for drug design.

Fig. 18 illustrates a sequence alignment of the amino acid sequences of FcγRIIa and FcγRIIIb.

DETAILED DESCRIPTION OF THE INVENTION

The present invention relates to the discovery of the three-dimensional structure of Fc receptor (FcR) proteins, models of such three-dimensional structures, a method of structure based drug design using such structures, the compounds identified by such methods and the use of such compounds in therapeutic compositions. More particularly, the present invention relates to novel crystals of Fc gamma receptor IIa (FcγRIIa), novel crystals of Fc epsilon receptor

I (FcεRI), methods of production of such crystals, three dimensional coordinates of FcγRIIa protein, a three dimensional structure of FcγRIIa protein, FcR structures and models derived from the FcγRIIa structure, including FcεRI and FcγRIIIb, and uses of such structure and models to derive other FcR structures and in drug design strategies. It is to be noted that the term "a" or "an" entity refers to one or more of that entity; for example, a compound refers to one or more compounds or at least one compound. As such, the terms "a" (or "an"), "one or more" and "at least one" can be used interchangeably herein. It is also to be noted that the terms "comprising", "including", and "having" can be used interchangeably. Furthermore, a compound "selected from the group consisting of" refers to one or more of the compounds in the list that follows, including mixtures (i.e., combinations) of two or more of the compounds. According to the present invention, an isolated, or pure, protein, is a protein that has been removed from its natural milieu. As such, "isolated" and "biologically pure" do not necessarily reflect the extent to which the protein has been purified. An isolated protein of the present invention can be obtained from its natural source, can be produced using recombinant DNA technology or can be produced by chemical synthesis. It is also to be noted that the terms "tertiary" and "three dimensional" can be used interchangeably. It is also to be noted that reference to an "FcR protein" can also be recited simply as "FcR" and such terms can be used to refer to a the complete FcR protein, a portion of the FcR protein, such as a polypeptide, and/or a monomer or a dimer of the FcR protein. When reference is specifically made to a monomer or dimer, for example, such term is typically used in conjunction with the FcR protein name.

The production of the crystal structure of FcγRIIa has been described in detail in U.S. Provisional Application Serial No. 60/073,972, filed February 6, 1998. The entire disclosure of U.S. Provisional Application Serial No. 60/073,972 is incorporated herein by reference in its entirety.

One embodiment of the present invention includes a model of an Fc receptor, in which the model represents a three dimensional structure of an Fc receptor (FcR) protein. Another embodiment of the present invention includes the three dimensional structure of an FcR protein. A three dimensional structure of an FcR protein encompassed by the present invention substantially conforms with the atomic coordinates represented in any one of Tables 1-5. According to the present invention, the use of the term "substantially conforms" refers to at least a portion of a three dimensional structure of an FcR protein which is sufficiently spatially similar to at least a portion of a specified three dimensional configuration of a particular set of atomic coordinates (e.g., those represented by Table 1) to allow the three dimensional structure of the FcR protein to be modeled or calculated (i.e., by molecular replacement) using the particular set of atomic coordinates as a basis for determining the atomic coordinates defining the three dimensional configuration of the FcR protein. According to the present invention, a three dimensional structure of a dimer of a first FcR can substantially conform to the atomic coordinates which represent a three dimensional structure of a monomer of a second FcR, and vice versa. In the first instance, at least a portion of the structure of the first FcR protein (i.e., a monomer of the first FcR protein dimer) substantially conforms to the atomic coordinates which represent the three

dimensional configuration of the second FcR monomer. In the second reversed case, a first monomeric FcR protein substantially conforms to at least a portion of the second FcR protein (i.e., a monomer of the second FcR protein dimer). Similarly, a three dimensional structure of a given portion or chain of a first FcR can substantially conform to at least a portion of the atomic coordinates which represent a three dimensional configuration of a second FcR.

More particularly, a structure that substantially conforms to a given set of atomic coordinates is a structure wherein at least about 50% of such structure has an average root-mean-square deviation (RMSD) of less than about 1.5 Å for the backbone atoms in secondary structure elements in each domain, and more preferably, less than about 1.3 Å for the backbone atoms in secondary structure elements in each domain, and, in increasing preference, less than about 1.0 Å, less than about 0.7 Å, less than about 0.5 Å, and most preferably, less than about 0.3 Å for the backbone atoms in secondary structure elements in each domain. In a more preferred embodiment, a structure that substantially conforms to a given set of atomic coordinates is a structure wherein at least about 75% of such structure has the recited average root-mean-square deviation (RMSD) value, and more preferably, at least about 90% of such structure has the recited average root-mean-square deviation (RMSD) value, and most preferably, about 100% of such structure has the recited average root-mean-square deviation (RMSD) value. In an even more preferred embodiment, the above definition of "substantially conforms" can be extended to include atoms of amino acid side chains. As used herein, the phrase "common amino acid side chains" refers to amino acid side chains that are common to both the structure which substantially conforms to a given set of atomic

coordinates and the structure that is actually represented by such atomic coordinates. Preferably, a three dimensional structure that substantially conforms to a given set of atomic coordinates is a structure wherein at least about 50% of the common amino acid side chains have an average root-mean-square deviation (RMSD) of less than about 1.5 Å, and more preferably, less than about 1.3 Å, and, in increasing preference, less than about 1.0 Å, less than about 0.7 Å, less than about 0.5 Å, and most preferably, less than about 0.3 Å. In a more preferred embodiment, a structure that substantially conforms to a given set of atomic coordinates is a structure wherein at least about 75% of the common amino acid side chains have the recited average root-mean-square deviation (RMSD) value, and more preferably, at least about 90% of the common amino acid side chains have the recited average root-mean-square deviation (RMSD) value, and most preferably, about 100% of the common amino acid side chains have the recited average root-mean-square deviation (RMSD) value.

A three dimensional structure of an FcR protein which substantially conforms to a specified set of atomic coordinates can be modeled by a suitable modeling computer program such as MODELER (A. Sali and T.L. Blundell, *J. Mol. Biol.*, vol. 234:779-815, 1993 as implemented in the Insight II Homology software package (Insight II (97.0), MSI, San Diego)), using information, for example, derived from the following data: (1) the amino acid sequence of the FcR protein; (2) the amino acid sequence of the related portion(s) of the protein represented by the specified set of atomic coordinates having a three dimensional configuration; and, (3) the atomic coordinates of the specified three dimensional configuration. A three dimensional structure of an FcR protein which substantially conforms to a specified set of

atomic coordinates can also be calculated by a method such as molecular replacement, which is described in detail below.

A suitable three dimensional structure of an FcR protein for use in modeling or calculating the three dimensional structure of another FcR protein comprises the set of atomic coordinates represented in Table 1. The set of three dimensional coordinates set forth in Table 1 is represented in standard Protein Data Bank format. According to the present invention, an FcR protein selected from the group of FcγRI, FcγRIIa, FcγRIIb, FcγRIIc, FcγRIIIb, FcεRI and FcαRI have a three dimensional structure which substantially conforms to the set of atomic coordinates represented by Table 1. As used herein, a three dimensional structure can also be a most probable, or significant, fit with a set of atomic coordinates. According to the present invention, a most probable or significant fit refers to the fit that a particular FcR protein has with a set of atomic coordinates derived from that particular FcR protein. Such atomic coordinates can be derived, for example, from the crystal structure of the protein such as the coordinates determined for the FcγRIIa structure provided herein, or from a model of the structure of the protein as determined herein for FcεRI and FcγRIIIb. For example, the three dimensional structure of a monomeric FcγRIIa protein, including a naturally occurring or recombinantly produced FcγRIIa protein, substantially conforms to and is a most probable fit, or significant fit, with the atomic coordinates of Table 1. The three dimensional crystal structure of FcγRIIa that was determined by the present inventors comprises the atomic coordinates of Table 1. Also as an example, the three dimensional structure of an FcεRI protein substantially conforms to the atomic coordinates of Table 1 and both substantially conforms to and is a most

probable fit with the atomic coordinates of Table 3, and the three dimensional structure of the model of FcεRI monomer determined by the present inventors comprises the atomic coordinates of Table 3. This definition can be applied to the other FcR proteins in a similar manner.

A preferred structure of an FcR protein according to the present invention substantially conforms to the atomic coordinates, and the B-values and/or the thermal parameters represented in Table 1. Such values as listed in Table 1 can be interpreted by one of skill in the art. A more preferred three dimensional structure of an FcR protein substantially conforms to the three dimensional coordinates represented in Table 1. An even more preferred three dimensional structure of an FcR protein is a most probable fit with the three dimensional coordinates represented in Table 1. Methods to determine a substantially conforming and probable fit are within the expertise of skill in the art and are described herein in the Examples section.

A preferred FcR protein that has a three dimensional structure which substantially conforms to the atomic coordinates represented by Table 1 includes an FcR protein having an amino acid sequence that is at least about 25%, preferably at least about 30%, more preferably at least about 40%, more preferably at least about 50%, more preferably at least about 60%, more preferably at least about 70%, more preferably at least about 80% and more preferably at least about 90%, identical to an amino acid sequence of an FcγRIIa protein, preferably an amino acid sequence including SEQ ID NO:3, SEQ ID NO:10, SEQ ID NO:11 and/or SEQ ID NO:12, across the full-length of the FcR sequence when using, for example, a sequence alignment program such as the DNAsis™ program (available from Hitachi Software, San Bruno, CA) or the

MacVector™ program (available from the Eastman Kodak Company, New Haven, CT) or the GCγ™ program (available from "GCγ", University of Wisconsin, Madison, WI), such alignment being performed for example, using the standard default values accompanying such alignment programs.

One embodiment of the present invention includes a three dimensional structure of FcγRIIa protein. A suitable three dimensional structure of FcγRIIa protein substantially conforms with the atomic coordinates represented in Table 1. A suitable three dimensional structure of FcγRIIa also substantially conforms with the atomic coordinates represented by Tables 2-5. A suitable three dimensional structure of FcγRIIa protein also comprises the set of atomic coordinates represented in Table 1. The set of three dimensional coordinates of FcγRIIa protein is represented in standard Protein Data Bank format. A preferred structure of FcγRIIa protein substantially conforms to the atomic coordinates, and the B-values and/or the thermal parameters represented in Table 1 (monomeric FcγRIIa) or Table 2 (dimeric FcγRIIa). Such values as listed in Table 1 can be interpreted by one of skill in the art. A more preferred three dimensional structure of FcγRIIa protein has a most probable fit with the three dimensional coordinates represented in Table 1.

One embodiment of the present invention includes a three dimensional structure of FcεRI protein. A suitable three dimensional structure of FcεRI protein substantially conforms with the atomic coordinates represented in Table 1, Table 2, Table 3, Table 4 or Table 5. A more suitable three dimensional structure of FcεRI protein substantially conforms with the sets of atomic coordinates represented in Table 3 (monomeric FcεRI) or Table 4 (dimeric FcεRI). A suitable three dimensional structure of FcεRI protein also comprises

the set of atomic coordinates represented in Tables 3 or 4. The sets of three dimensional coordinates of FcεRI protein are represented in standard Protein Data Bank format. Such coordinates as listed in Tables 1-5 can be interpreted by one of skill in the art. A more preferred three dimensional structure of FcεRI protein has a probable fit with the three dimensional coordinates represented in Table 3 or Table 4.

One embodiment of the present invention includes a three dimensional structure of FcγRIIIb protein. A suitable three dimensional structure of FcγRIIIb protein substantially conforms with the atomic coordinates represented in Table 1, Table 2, Table 3, Table 4 or Table 5. An even more suitable three dimensional structure of FcγRIIIb protein substantially conforms with the set of atomic coordinates represented in Table 5. A suitable three dimensional structure of FcγRIIIb protein also comprises the set of atomic coordinates represented in Table 5. The sets of three dimensional coordinates of FcγRIIIb protein are represented in standard Protein Data Bank format. A more preferred three dimensional structure of FcγRIIIb protein has a most probable fit with the three dimensional coordinates represented in Table 5.

A three dimensional structure of any FcR protein can be modeled using methods generally known in the art based on information obtained from analysis of an FcγRIIa crystal, and from other FcR structures which are derived from an FcγRIIa crystal. The Examples section below discloses the production of an FcγRIIa crystal, the production of an FcεRI crystal, the three dimensional structure of an FcγRIIa protein monomer and dimer derived from the FcγRIIa crystal, and the model of the three dimensional structure of an FcεRI protein monomer and dimer using methods generally known in the art based on the information obtained from analysis of an FcγRIIa crystal. It

is an embodiment of the present invention that the three dimensional structure of a crystalline FcR, such as the crystalline FcγRIIa, can be used to derive the three dimensional structure of any other FcR, such as the FcεRI disclosed herein. Subsequently, the derived three dimensional structure of such an FcR (e.g., FcεRI) derived from the crystalline structure of FcγRIIa can be used to derive the three dimensional structure of other FcR, such as FcRγIII. Therefore, the novel discovery herein of the crystalline FcγRIIa and the three dimensional structure of FcγRIIa permits one of ordinary skill in the art to now derive the three dimensional structure, and models thereof, of any FcR. The derivation of the structure of any FcR can now be achieved even in the absence of having crystal structure data for such other FcR, and when the crystal structure of another FcR is available, the modeling of the three dimensional structure of the new FcR can be refined using the knowledge already gained from the FcγRIIa structure. It is an advantage of the present invention that, in the absence of crystal structure data for other FcR proteins, the three dimensional structures of other FcR proteins can be modeled, taking into account differences in the amino acid sequence of the other FcR. Indeed, the recent report of the crystallization of the monomeric FcεRI and publication of a model of the receptor (Garman et al., December 23, 1998, *Cell* 95:951-961) subsequent to the priority filing dates of the present application has confirmed that the monomeric FcεRI protein determined by the present inventors comprising the atomic coordinates represented in Table 3 has the overall gross structural features of the three dimensional structure of the crystalline FcεRI reported in Garman et al. Although the atomic coordinates of the crystalline FcεRI structure of Garman et al. are not currently publicly

available, a review of the structural representations and discussion in Garman et al. indicates that the three dimensional structure of the crystalline FcεRI is expected to substantially conform to the atomic coordinates represented by Table 3. Moreover, the novel discoveries of the present invention allow for structure based drug design of compounds which affect the activity of virtually any FcR, and particularly, of FcγR and FcεRI.

Crystals are derivatized with heavy atom compounds such as complexes or salts of Pt, Hg, Au and Pb and X-ray diffraction data are measured for native and derivatized crystals. Differences in diffraction intensities for native crystals and derivatized crystals can be used to determine phases for these data by the methods of MIR (muliple Isomorphous Replacement) or SIRAS (single isomorphous replacement with anomolous scattering). The Fourier transform of these data yield a low resolution electron density map for the protein. This electron density can be modified by image enhancement techniques. A molecular model for the protein is then placed in the electron density. This initial (partial) structure can be refined using a computer program (such as XPLOR) by modifying the parameters which describe the structure to minimize the difference between the measured and calculated diffraction patterns, while simultaneously restraining the model to conform to known geometric and chemical properties of proteins. New phases and a thus a new electron density map can be calculated for protein. Using this map as a guide the molecular model of the structure may be improved manually. This procedure is repeated to give the structure of the protein, represented herein for FcγRIIa as a set of atomic coordinates in Table 1.

One embodiment of the present invention includes a three dimensional structure of FcγRIIa protein, in which the atomic coordinates of the FcγRIIa protein are generated by the method comprising: (a) providing FcγRIIa protein in crystalline form; (b) generating an electron-density map of the crystalline FcγRIIa protein; and (c) analyzing the electron-density map to produce the atomic coordinates.

According to the present invention, a three dimensional structure of FcγRIIa protein of the present invention can be used to derive a model of the three dimensional structure of another FcR protein (i.e., a structure to be modeled). As used herein, a "structure" of a protein refers to the components and the manner of arrangement of the components to constitute the protein. As used herein, the term "model" refers to a representation in a tangible medium of the three dimensional structure of a protein, polypeptide or peptide. For example, a model can be a representation of the three dimensional structure in an electronic file, on a computer screen, on a piece of paper (i.e., on a two dimensional medium), and/or as a ball-and-stick figure. Physical three-dimensional models are tangible and include, but are not limited to, stick models and space-filling models. The phrase "imaging the model on a computer screen" refers to the ability to express (or represent) and manipulate the model on a computer screen using appropriate computer hardware and software technology known to those skilled in the art. Such technology is available from a variety of sources including, for example, Evans and Sutherland, Salt Lake City, Utah, and Biosym Technologies, San Diego, CA. The phrase "providing a picture of the model" refers to the ability to generate a "hard copy" of the model. Hard copies include both motion and still pictures. Computer screen images and pictures of the

model can be visualized in a number of formats including space-filling representations, α carbon traces, ribbon diagrams (see, for example, Fig. 14 which is a two dimensional ribbon diagram model of a three-dimensional structure of human FcεRI protein) and electron density maps.

Suitable target FcR structures to model using a method of the present invention include any FcR protein, polypeptide or peptide, including monomers, dimers and multimers of an FcR protein, that is substantially structurally related to an FcγRIIa protein. A preferred target FcR structure that is substantially structurally related to an FcγRIIa protein includes a target FcR structure having an amino acid sequence that is at least about 25%, preferably at least about 30%, more preferably at least about 36%, more preferably at least about 40%, more preferably at least about 50%, more preferably at least about 60%, more preferably at least about 70%, more preferably at least about 80% and more preferably at least about 90%, identical to an amino acid sequence of an FcγRIIa protein, preferably an amino acid sequence including SEQ ID NO:3, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:14 and/or SEQ ID NO:15, across the full-length of the target FcR structure sequence when using, for example, a sequence alignment program such as the DNAsis™ program (available from Hitachi Software, San Bruno, CA) or the MacVector™ program (available from the Eastman Kodak Company, New Haven, CT) or the GCγ™ program (available from "GCγ", University of Wisconsin, Madison, WI), such alignment being performed for example, using the standard default values accompanying such alignment programs. More preferred target FcR structures to model include proteins comprising amino acid sequences that are at least about 50%, preferably at least about 60%, more preferably at least about 70%, more preferably at least about

80%, more preferably at least about 90%, and more preferably at least about 95%, identical to amino acid sequence SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, or SEQ ID NO:13 when comparing preferred regions of the sequence, such as the amino acid sequence for Domain 1 or Domain 2 of any one of the amino acid sequences, when using a DNA alignment program disclosed herein to align the amino acid sequences. A more preferred target FcR structure to model includes a structure comprising FcγRI, FcγRIIa, FcγRIIb, FcγRIIc, FcγRIIIb, FcεRI or FcαRI protein, more preferably a structure comprising the amino acid sequence SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, or SEQ ID NO:13 and more preferably a structure consisting of the amino acid sequence SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, or SEQ ID NO:13.

Preferred target FcR structures to model also include, but are not limited to, derivations of Fc receptor proteins, such as an Fc receptor having one or more amino acid residues substituted, deleted or added (referred to herein as Fc receptor mutants), or proteins encoded by natural allelic variants of a nucleic acid molecule encoding an Fc receptor. A preferred Fc receptor protein to model includes FcγRIIaγTm (i.e., an FcγRIIa protein from which the transmembrane domain has been deleted), and mutants or natural allelic variants of a nucleic acid molecule encoding FcγRI, FcγRIIa, FcγRIIb, FcγRIIc, FcγRIIIb, FcεRI, FcαRI protein. More preferred Fc receptor proteins to model include Fc receptor proteins having an amino acid sequence including SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11,

SEQ ID NO:12, or SEQ ID NO:13 or mutants or natural allelic variants of SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, or SEQ ID NO:13. According to the present invention, an amino acid sequence for FcγRIIb is represented herein as SEQ ID NO:5, an amino acid sequence for FcγRIIc is represented herein as SEQ ID NO:6, an amino acid sequence for FcγRI is represented herein as SEQ ID NO:7, an amino acid sequence for FcγRIII is represented herein as SEQ ID NO:8, an amino acid sequence for FcεRI is represented herein as SEQ ID NO:9 and as set forth in Fig. 13, and an amino acid sequence for FcαRI is represented herein as SEQ ID NO:13. It is noted that the nucleotide and amino acid sequences for all of the above-known FcR are known and publicly available. Preferred allelic variants to model include, but are not limited to, FcγRIIa allelic variants having a glutamine at residue 27 of SEQ ID NO:3 and an arginine at residue 131 of SEQ ID NO:3, represented herein as SEQ ID NO:10; a tryptophan at residue 27 of SEQ ID NO:3 and a histidine at residue 131 of SEQ ID NO:3, represented herein as SEQ ID NO:11; or a tryptophan at residue 27 of SEQ ID NO:3 and an arginine at residue 131 of SEQ ID NO:3, represented herein as SEQ ID NO:12.

As used herein, a "natural allelic variant" refers to alternative forms of a gene that occupies corresponding loci on homologous chromosomes. Allelic variants typically encode proteins having similar activity to that of the protein encoded by the gene to which they are being compared. Allelic variants can also comprise alterations in the 5' or 3' untranslated regions of the gene (e.g., in regulatory control regions). Allelic variants are well known to those skilled in the art and would be expected to be found within a given group of genes encoding an Fc receptor in a given species of animal.

As used herein, "mutants of a nucleic acid molecule encoding an Fc receptor" refer to nucleic acid molecules modified by nucleotide insertions, deletions and/or substitutions. Preferably, a mutant of an Fc receptor nucleic acid molecule comprises modifications such that the protein encoded by the mutant of an Fc receptor nucleic acid molecule (i.e., an Fc receptor protein mutant) has one or more epitopes that can be targeted by a humoral or cellular immune response against a non-mutated Fc receptor protein. More preferably, the nucleic acid molecule encoding a mutant Fc receptor protein can form a stable hybrid with a nucleic acid sequence encoding a non-mutated Fc receptor nucleic acid molecule under stringent hybridization conditions. Even more preferably, the nucleic acid molecule encoding a mutant Fc receptor protein can form a stable hybrid, under stringent hybridization conditions, with a nucleic acid sequence encoding an amino acid sequence including SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, or SEQ ID NO:13.

As used herein, stringent hybridization conditions refer to standard hybridization conditions under which nucleic acid molecules are used to identify similar nucleic acid molecules. Such standard conditions are disclosed, for example, in Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Labs Press, 1989. Sambrook et al., *ibid.*, is incorporated by reference herein in its entirety (see specifically, pages 9.31-9.62, 11.7 and 11.45-11.61). In addition, formulae to calculate the appropriate hybridization and wash conditions to achieve hybridization permitting varying degrees of mismatch of nucleotides are disclosed, for example, in Meinkoth et al., 1984, *Anal. Biochem.* 138, 267-

284; Meinkoth et al., *ibid.*, is incorporated by reference herein in its entirety.

More particularly, stringent hybridization conditions, as referred to herein, refer to conditions which permit isolation of nucleic acid molecules having at least about 70% nucleic acid sequence identity with the nucleic acid molecule being used to probe in the hybridization reaction, more particularly at least about 75%, and most particularly at least about 80%. Such conditions will vary, depending on whether DNA:RNA or DNA:DNA hybrids are being formed. Calculated melting temperatures for DNA:DNA hybrids are 10°C less than for DNA:RNA hybrids. In particular embodiments, stringent hybridization conditions for DNA:DNA hybrids include hybridization at an ionic strength of 0.1X SSC (0.157 M Na^+) at a temperature of between about 20°C and about 35°C, more preferably, between about 28°C and about 40°C, and even more preferably, between about 35°C and about 45°C. In particular embodiments, stringent hybridization conditions for DNA:RNA hybrids include hybridization at an ionic strength of 0.1X SSC (0.157 M Na^+) at a temperature of between about 30°C and about 45°C, more preferably, between about 38°C and about 50°C, and even more preferably, between about 45°C and about 55°C. These values are based on calculations of a melting temperature for molecules larger than about 100 nucleotides, 0% formamide and a G + C content of about 50%. Alternatively, T_m can be calculated empirically as set forth in Sambrook et al., *supra*, pages 11.55 to 11.57.

A model of the present invention can be derived using conserved structural features between the known three dimensional structure of one FcR protein, such as FcγRIIa, and another target FcR structure. Such structural features include, but are not limited to, amino acid sequence,

conserved di-sulphide bonds, and β-strands or β-sheets that are highly conserved in immunoglobulin superfamily members. For example, Figs. 5, 11 and 12 illustrate the relationship of β-strands with the linear amino acid sequence of various Fc receptor proteins. Preferably, a model of the present invention is derived by starting with the backbone of the three dimensional structure of FcγRIIa protein. Individual residues are then replaced according to the amino acid sequence of the target FcR structure at residues that differ from the amino acid sequence of an FcγRIIa protein. Care is taken that replacement of residues does not disturb the tertiary structure of the backbone. While procedures to model target FcR structures are generally known in the art, the present invention provides the first three dimensional structure of FcγRIIa protein and the first three dimensional structures of protein substantially related to a member of the family of FcγR receptors, an FcεRI and an FcγRIIIb. Thus, the present invention provides essential information to produce accurate, and therefore, useful models of a member of the family of FcγR receptors, of the FcεRI receptor and of the FcαRI receptor. As discussed above, once the three dimensional structure of a second FcR has been derived from a determined three dimensional structure of a first FcR such as FcγRIIa disclosed herein, the second FcR three dimensional structure can be used to derive (i.e., model or calculate) the three dimensional structure of another FcR.

According to the present invention, a structure can be modeled using techniques generally described by, for example, Sali, *Current Opinions in Biotechnology*, vol. 6, pp. 437-451, 1995, and algorithms can be implemented in program packages such as Homology 95.0 (in the program Insight II, available from Biosym/MSI, San Diego, CA). Use of Homology 95.0

requires an alignment of an amino acid sequence of a known structure having a known three dimensional structure with an amino acid sequence of a target structure to be modeled. The alignment can be a pairwise alignment or a multiple sequence alignment including other related sequences (for example, using the method generally described by Rost, *Meth. Enzymol.*, vol. 266, pp. 525-539, 1996) to improve accuracy. Structurally conserved regions can be identified by comparing related structural features, or by examining the degree of sequence homology between the known structure and the target structure. Certain coordinates for the target structure are assigned using known structures from the known structure. Coordinates for other regions of the target structure can be generated from fragments obtained from known structures such as those found in the Protein Data Bank maintained by Brookhaven National Laboratory, Upton, NY. Conformation of side chains of the target structure can be assigned with reference to what is sterically allowable and using a library of rotamers and their frequency of occurrence (as generally described in Ponder and Richards, *J. Mol. Biol.*, vol. 193, pp. 775-791, 1987). The resulting model of the target structure, can be refined by molecular mechanics (such as embodied in the program Discover, available from Biosym/MSI) to ensure that the model is chemically and conformationally reasonable.

Accordingly, one embodiment of the present invention is a method to derive a model of the three dimensional structure of a target FcR structure, the method comprising the steps of: (a) providing an amino acid sequence of an FcγRIIa protein and an amino acid sequence of a target FcR structure; (b) identifying structurally conserved regions shared between the FcγRIIa amino acid sequence and the target FcR structure amino acid sequence; (c) determining atomic coordinates for the

target FcR structure by assigning said structurally conserved regions of the target FcR structure to a three dimensional structure using a three dimensional structure of an FcγRIIa protein based on atomic coordinates that substantially conform to the atomic coordinates represented in Table 1, to derive a model of the three dimensional structure of the target structure amino acid sequence. A model according to the present invention has been previously described herein. Preferably the model comprises a computer model. The method can further comprise the step of electronically simulating the structural assignments to derive a computer model of the three dimensional structure of the target structure amino acid sequence. Suitable target structures to model include proteins, polypeptides and peptides of Fc receptors disclosed herein, including monomers and dimers of such receptors. Preferred amino acid sequences to model are disclosed herein.

Another embodiment of the present invention is a method to derive a computer model of the three dimensional structure of a target FcR structure for which a crystal has been produced (referred to herein as a "crystallized target structure"). A suitable method to produce such a model includes the method comprising molecular replacement. Methods of molecular replacement are generally known by those of skill in the art (generally described in Brunger, *Meth. Enzym.*, vol. 276, pp. 558-580, 1997; Navaza and Saludjian, *Meth. Enzym.*, vol. 276, pp. 581-594, 1997; Tong and Rossmann, *Meth. Enzym.*, vol. 276, pp. 594-611, 1997; and Bentley, *Meth. Enzym.*, vol. 276, pp. 611-619, 1997, each of which are incorporated by this reference herein in their entirety) and are performed in a software program including, for example, XPLOR. According to the present invention, X-ray diffraction data is collected from the crystal of a crystallized target structure. The

X-ray diffraction data is transformed to calculate a Patterson function. The Patterson function of the crystallized target structure is compared with a Patterson function calculated from a known structure (referred to herein as a search structure). The Patterson function of the crystallized target structure is rotated on the search structure Patterson function to determine the correct orientation of the crystallized target structure in the crystal. The translation function is then calculated to determine the location of the target structure with respect to the crystal axes. Once the crystallized target structure has been correctly positioned in the unit cell, initial phases for the experimental data can be calculated. These phases are necessary for calculation of an electron density map from which structural differences can be observed and for refinement of the structure. Preferably, the structural features (e.g., amino acid sequence, conserved di-sulphide bonds, and β-strands or β-sheets) of the search molecule are related to the crystallized target structure. Preferably, a crystallized target FcR structure useful in a method of molecular replacement according to the present invention has an amino acid sequence that is at least about 25%, more preferably at least about 30%, more preferably at least about 40%, more preferably at least about 50%, more preferably at least about 60%, more preferably at least about 70%, more preferably at least about 80% and more preferably at least about 90% identical to the amino acid sequence of the search structure (e.g., FcγRIIa), when the two amino acid sequences are compared using a DNA alignment program disclosed herein. A preferred search structure of the present invention includes an FcγRIIa protein comprising an amino acid sequence including SEQ ID NO:3, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:14 or SEQ ID NO:15. A more preferred search

structure of the present invention includes an FcγRIIa protein having a three dimensional structure that substantially conforms with the atomic coordinates listed in Table 1. Preferably, a Patterson function of a crystalline FcγRIIa protein is derived from X-ray diffraction of an FcγRIIa crystal of the present invention. A preferred target FcR structure for use in a molecular replacement strategy of the present invention includes FcγRI, FcγRIIb, FcγRIIc, FcγRIII, FcεRI and/or FcαRI, and most preferably, FcεRI and FcγRIIIb.

A preferred embodiment of the present invention includes a method to derive a three dimensional structure of a crystallized target FcR structure (i.e. a crystallized FcR protein), said method comprising the steps of: (a) comparing the Patterson function of a crystallized target FcR structure with the Patterson function of crystalline FcγRIIa protein to produce an electron-density map of said crystallized target FcR structure; and (b) analyzing the electron-density map to produce the three dimensional structure of the crystallized target FcR structure.

Another embodiment of the present invention is a method to determine a three dimensional structure of a target structure, in which the three dimensional structure of the target FcR structure is not known. Such a method is useful for identifying structures that are related to the three dimensional structure of an FcγRIIa protein based only on the three dimensional structure of the target structure. Thus, the present method enables identification of structures that do not have high amino acid identity with an FcγRIIa protein but which do share three dimensional structure similarities. A preferred method to determine a three dimensional structure of a target FcR structure comprises: (a) providing an amino acid sequence of a target structure, wherein the three

dimensional structure of the target structure is not known; (b) analyzing the pattern of folding of the amino acid sequence in a three dimensional conformation by fold recognition; and (c) comparing the pattern of folding of the target structure amino acid sequence with the three dimensional structure of FcγRIIa protein to determine the three dimensional structure of the target structure, wherein the three dimensional structure of the FcγRIIa protein substantially conforms to the atomic coordinates represented in Table 1. Preferred methods of fold recognition include the methods generally described in Jones, *Curr. Opinion Struc. Biol.*, vol. 7, pp. 377-387, 1997. Such folding can be analyzed based on hydrophobic and/or hydrophilic properties of a target structure.

One embodiment of the present invention includes a three dimensional computer image of the three dimensional structure of an FcR protein. Suitable structures of which to produce three dimensional computer images are disclosed herein. Preferably, a computer image is created to a structure substantially conforms with the three dimensional coordinates listed in Table 1. A computer image of the present invention can be produced using any suitable software program, including, but not limited to, MOLSCRIPT 2.0 (Avatar Software AB, Heleneborgsgatan 21C, SE-11731 Stockholm, Sweden), the graphical display program O (Jones et. al., *Acta Crystallography*, vol. A47, p. 110, 1991) or the graphical display program GRASP. Suitable computer hardware useful for producing an image of the present invention are known to those of skill in the art. Preferred computer hardware includes a Silicon Graphics Workstation.

Another embodiment of the present invention relates to a computer-readable medium encoded with a set of three

dimensional coordinates selected from the group of the three dimensional coordinates represented in Table 1, the three dimensional coordinates represented in Table 2, the three dimensional coordinates represented in Table 3, the three dimensional coordinates represented in Table 4, and the three dimensional coordinates represented in Table 5, wherein, using a graphical display software program, the three dimensional coordinates create an electronic file that can be visualized on a computer capable of representing said electronic file as a three dimensional image. Preferably, the three dimensional structure is of an FcR protein selected from the group of FcγRIIa, FcεRI, and FcγRIIIb.

Yet another embodiment of the present invention relates to a computer-readable medium encoded with a set of three dimensional coordinates of a three dimensional structure which substantially conforms to the three dimensional coordinates represented in Table 1, wherein, using a graphical display software program, the set of three dimensional coordinates create an electronic file that can be visualized on a computer capable of representing said electronic file as a three dimensional image. Preferably, the three dimensional structure is of an FcR protein selected from the group of FcγRI, FcγRIIa, FcγRIIb, FcγRIIc, FcγRIII, FcεRI and FcαRI.

Another embodiment of the present invention relates to a two dimensional image of an FcR including those illustrated in Fig. 4, Fig. 6, Fig. 7, Fig. 8, Fig. 9, Fig. 10, Fig. 14, Fig. 15 or Fig. 16. Most of these figures were drawn with MOLSCRIPT 2.0 (Avatar Software AB, Heleneborgsgatan 21C, SE-11731 Stockholm, Sweden).

One embodiment of the present invention includes an image of FcR protein that is generated when a set of three dimensional coordinates comprising the three dimensional

coordinates represented in Table 1 are analyzed on a computer using a graphical display software program to create an electronic file of said image and visualizing said electronic file on a computer capable of representing electronic file as a three dimensional image. Suitable graphical software display programs include MOLSCRIPT 2.0, O and GRASP. A suitable computer to visualize such image includes a Silicon Graphics Workstation. Suitable structures and models to image are disclosed herein. Preferably, the three dimensional structures and/or models are of an FcR protein selected from the group of FcγRI, FcγRIIa, FcγRIIb, FcγRIIc, FcγRIII, FcεRI and FcαRI.

The present invention also includes a three dimensional model of the three dimensional structure of a target structure including FcγRI protein, FcγRIIa, FcγRIIb protein, FcγRIIc protein, FcγRIIIb protein, FcεRI protein, and FcαRI protein, such a three dimensional model being produced by the method comprising: (a) providing an amino acid sequences of an FcγRIIa protein and an amino acid sequence of a target FcR structure; (b) identifying structurally conserved regions shared between the FcγRIIa amino acid sequence and the target FcR structure amino acid sequence; (c) determining atomic coordinates for the FcR protein by assigning the structurally conserved regions of the target FcR structure to a three dimensional structure using a three dimensional structure of an FcγRIIa protein based on atomic coordinates that substantially conform to the atomic coordinates represented in Table 1 to derive a model of the three dimensional structure of the target FcR structure amino acid sequence. Preferably, the model comprises a computer model. Preferably, the method further comprises the step of electronically simulating the structural assignments to derive a computer model of the three

dimensional structure of the target FcR structure amino acid sequence. Preferred amino acid sequences of FcγRI protein, FcγRIIb protein, FcγRIIc protein, FcγRIIIb protein and FcεRI protein are disclosed herein.

One embodiment of the present invention includes a method for producing crystals of FcγRIIa, comprising combining FcγRIIa protein with a mother liquor and inducing crystal formation to produce the FcγRIIa crystals. Another embodiment of the present invention includes a method for producing crystals of FcεRI, comprising combining FcεRI protein with a mother liquor and inducing crystal formation to produce the FcεRI crystals. Although the production of crystals of FcγRIIa and FcεRI are specifically described herein, it is to be understood that such processes as are described herein can be adapted by those of skill in the art to produce crystals of other Fc receptors (FcR), particularly FcγRI, FcγRIIb, FcγRIIc, FcγRIIIb and FcαRI, the three dimensional structures of which are also encompassed by the present invention.

Preferably, crystals of FcγRIIa are formed using a solution containing a range of FcγRIIa protein from about 1 mg/ml to about 20 mg/ml, more preferably from about 2 mg/ml to about 15 mg/ml, and even more preferably from about 3 mg/ml to about 6 mg/ml of FcγRIIa protein in a mother liquor, with 3 mg/ml and 6 mg/ml of FcγRIIa protein in a mother liquor being more preferred. Preferably, crystals are formed using droplets containing from about 1 μg to about 30 μg, more preferably from about 5 μg to about 25 μg, and more preferably from about 4.5 μg to about 9 μg of FcγRIIa protein per 3 μl droplet.

A suitable mother liquor of the present invention comprises an acetate salt buffer. A preferred acetate salt buffer of the present invention comprises ammonium acetate.

The concentration of ammonium acetate in the buffer prior to crystallization can range from about 100 mM to about 500 mM ammonium acetate. Preferably, the concentration of ammonium acetate in the buffer ranges from about 150 mM to about 300 mM ammonium acetate. More preferably, the concentration of ammonium acetate in the buffer is 200 mM ammonium acetate. A suitable acetate salt buffer preferably includes a buffer having a pH of from about 5 to about 7, more preferably from about 5.5 to about 6.5, and more preferably a pH of about 5.6. Preferably, the pH of an acetate salt buffer or the present invention is controlled using sodium citrate. A suitable acetate salt buffer contains sodium citrate at a concentration of about 0.01 M sodium citrate, more preferably 0.05 M sodium citrate and more preferably 0.1 M sodium citrate. A suitable acetate salt buffer contains any polyethylene glycol (PEG), with PEG 4000 being more preferred. Suitable PEG 4000 concentrations in an acetate salt buffer of the present invention include a concentration of about 20%, preferably about 25%, and more preferably about 30% PEG 4000.

Another suitable mother liquor of the present invention comprises a sulphate buffer. A preferred sulphate buffer of the present invention comprises lithium sulfate. The concentration of lithium sulfate in the buffer prior to crystallization can range from about 100 mM to about 2.5 M lithium sulfate. Preferably, the concentration of lithium sulfate in the buffer ranges from about 500 mM to about 2 M lithium sulfate. More preferably, the concentration of lithium sulfate in the buffer is about 1.5 M lithium sulfate. A suitable sulphate buffer preferably includes a buffer having a pH of from about 5 to about 9, more preferably from about 6 to about 8, and more preferably a pH of about 7.5. Preferably, the pH of a sulphate buffer or the present

invention is controlled using HEPES. A suitable sulphate buffer contains HEPES at a concentration of about 0.01 M HEPES, more preferably 0.05 M HEPES and more preferably 0.1 M HEPES.

Supersaturated solutions of FcγRIIa protein can be induced to crystallize by several methods including, but not limited to, vapor diffusion, liquid diffusion, batch crystallization, constant temperature and temperature induction or a combination thereof. Preferably, supersaturated solutions of FcγRIIa protein are induced to crystallize by vapor diffusion (i.e., hanging drop method). In a vapor diffusion method, an FcγRIIa protein is combined with a mother liquor of the present invention that will cause the FcγRIIa protein solution to become supersaturated and form FcγRIIa crystals at a constant temperature. Vapor diffusion is preferably performed under a controlled temperature in the range of from about 15°C to about 30°C, more preferably from about 20°C to about 25°C, and more preferably at a constant temperature of about 22°C.

In a preferred embodiment, the present invention includes a method to produce crystals of FcγRIIa comprising the steps of: (a) preparing an about 3 mg/ml solution of FcγRIIa protein in an acetate salt buffer to form a supersaturated formulation, in which the buffer comprises about 200 mM ammonium acetate, about 100 mM sodium citrate and about 30% PEG 4000 and has a pH of about pH 5.8; (b) dropping about 3 μl droplets of the supersaturated formulation onto a coverslip and inverting this over a well containing about 1 ml of the acetate salt buffer; and (c) incubating until crystals of FcγRIIa form.

In another preferred embodiment, the present invention includes a method to produce crystals of FcγRIIa comprising

the steps of: (a) preparing an about 3 mg/ml solution of FcγRIIa protein in a sulphate buffer to form a supersaturated formulation, in which the buffer comprises about 0.15 M HEPES and about 1.5 M lithium sulphate and has a pH of about pH 7.5; (b) dropping about 3 μl droplets of the supersaturated formulation onto a coverslip and inverting this over a containing about 1 ml of the sulphate buffer; and (c) incubating until crystals of FcγRIIa form.

As discussed briefly above, another embodiment of the present invention is a method of producing FcεRI crystals and the FcεRI crystals produced thereby. Preferably, crystals of FcεRI are formed using a solution containing a range of FcεRI protein from about 1 mg/ml to about 20 mg/ml, more preferably from about 2 mg/ml to about 15 mg/ml, and even more preferably from about 3 mg/ml to about 6 mg/ml of FcεRI protein in a mother liquor, with 3 mg/ml and 6 mg/ml of FcεRI protein in a mother liquor being more preferred. Preferably, crystals are formed using droplets containing from about 1 μg to about 30 μg, more preferably from about 5 μg to about 25 μg, and more preferably from about 4.5 μg to about 9 μg of FcεRI protein per 3 μl droplet.

A suitable mother liquor of the present invention comprises an acetate salt buffer. A preferred acetate salt buffer of the present invention comprises calcium acetate. The concentration of calcium acetate in the buffer prior to crystallization can range from about 100 mM to about 500 mM calcium acetate. Preferably, the concentration of calcium acetate in the buffer ranges from about 150 mM to about 300 mM calcium acetate. More preferably, the concentration of calcium acetate in the buffer is 200 mM calcium acetate. A suitable acetate salt buffer preferably includes a buffer having a pH of from about 5.5 to about 7.5, more preferably

from about 6.0 to about 7.0, and more preferably a pH of about 6.5. Preferably, the pH of an acetate salt buffer or the present invention is controlled using sodium cacodylate. A suitable acetate salt buffer contains sodium cacodylate at a concentration of about 0.01 M sodium cacodylate, more preferably 0.05 M sodium cacodylate and more preferably 0.1 M sodium cacodylate. A suitable acetate salt buffer contains any polyethylene glycol (PEG), with PEG 8000 being more preferred. Suitable PEG 8000 concentrations in an acetate salt buffer of the present invention include a concentration of about 10% w/v, preferably about 15%, and more preferably about 20% w/v PEG 8000.

Another suitable mother liquor of the present invention comprises a buffer which includes sodium cacodylate together with 2-propanol and polyethylene glycol. A preferred sodium cacodylate buffer of the present invention comprises a concentration of sodium cacodylate in the buffer prior to crystallization of about 0.01 M sodium cacodylate, more preferably 0.05 M sodium cacodylate and more preferably 0.1 M sodium cacodylate. A suitable sodium cacodylate buffer preferably includes a buffer having a pH of from about 5 to about 7, more preferably from about 5.5 to about 6.5, and more preferably a pH of from about 5.5 to about 6.0. A suitable sodium cacodylate buffer contains 2-propanol at a concentration of about 5% v/v, more preferably 7% v/v and more preferably 10% v/v. A suitable sodium cacodylate buffer contains any polyethylene glycol (PEG), with PEG 4000 being more preferred. Suitable PEG 4000 concentrations in an acetate salt buffer of the present invention include a concentration of about 10% w/v, preferably about 15%, and more preferably about 20% w/v PEG 4000.

Another suitable mother liquor of the present invention comprises a sodium citrate buffer which includes tri sodium citrate dihydrate together with sodium cacodylate and 2-propanol. A preferred sodium citrate buffer of the present invention comprises a concentration of tri sodium citrate dihydrate in the buffer prior to crystallization of about 0.05 M tri sodium citrate dihydrate, more preferably 0.1 M tri sodium citrate dihydrate and more preferably 0.2 M tri sodium citrate dihydrate. A suitable sodium citrate buffer preferably includes a buffer having a pH of from about 5.5 to about 7, more preferably from about 6.0 to about 7.0, and more preferably a pH of about 6.5. A preferred sodium citrate buffer of the present invention comprises a concentration of sodium cacodylate in the buffer prior to crystallization of about 0.01 M sodium cacodylate, more preferably 0.05 M sodium cacodylate and more preferably 0.1 M sodium cacodylate. A suitable sodium citrate buffer contains 2-propanol at a concentration of about 15% v/v, more preferably 20% v/v and more preferably 30% v/v.

Supersaturated solutions of FcεRI protein can be induced to crystallize by several methods including, but not limited to, vapor diffusion, liquid diffusion, batch crystallization, constant temperature and temperature induction or a combination thereof. Preferably, supersaturated solutions of FcεRI protein are induced to crystallize by vapor diffusion (i.e., hanging drop method). In a vapor diffusion method, an FcεRI protein is combined with a mother liquor of the present invention that will cause the FcεRI protein solution to become supersaturated and form FcεRI crystals at a constant temperature. Vapor diffusion is preferably performed under a controlled temperature in the range of from about 15°C to

about 30°C, more preferably from about 20°C to about 25°C, and more preferably at a constant temperature of about 22°C.

In a preferred embodiment, the present invention includes a method to produce crystals of FcεRI comprising the steps of: (a) preparing an about 3 mg/ml solution of FcεRI protein in an acetate salt buffer to form a supersaturated formulation, in which the buffer comprises about 200 mM calcium acetate, about 100 mM sodium cacodylate and about 18% w/v PEG 8000 and has a pH of about pH 6.5; (b) dropping about 3 μl droplets of the supersaturated formulation onto a coverslip and inverting this over a well containing about 1 ml of the acetate salt buffer; and (c) incubating until crystals of FcεRI form.

In another preferred embodiment, the present invention includes a method to produce crystals of FcεRI comprising the steps of: (a) preparing an about 3 mg/ml solution of FcεRI protein in a sodium cacodylate buffer to form a supersaturated formulation, in which the buffer comprises about 100 mM sodium cacodylate, about 10% v/v 2-propanol and about 20% w/v PEG 4000 and has a pH of about pH 5.5-6.0; (b) dropping about 3 μl droplets of the supersaturated formulation onto a coverslip and inverting this over a containing about 1 ml of the sulphate buffer; and (c) incubating until crystals of FcεRI form.

In another preferred embodiment, the present invention includes a method to produce crystals of FcεRI comprising the steps of: (a) preparing an about 3 mg/ml solution of FcεRI protein in a sodium citrate buffer to form a supersaturated formulation, in which the buffer comprises about 200 mM tri sodium citrate dihydrate, about 100 mM sodium cacodylate and about 30% v/v 2-propanol and has a pH of about pH 6.5; (b) dropping about 3 μl droplets of the supersaturated formulation onto a coverslip and inverting this over a containing about 1

ml of the sulphate buffer; and (c) incubating until crystals of FcεRI form.

Any isolated FcR protein can be used with the present method. An isolated FcR protein can be isolated from its natural milieu or produced using recombinant DNA technology (e.g., polymerase chain reaction (PCR) amplification, cloning) or chemical synthesis. To produce recombinant FcR protein, a nucleic acid molecule encoding FcR protein can be inserted into any vector capable of delivering the nucleic acid molecule into a host cell. Suitable and preferred nucleic acid molecules to include in recombinant vectors of the present invention are as disclosed herein. A preferred nucleic acid molecule of the present invention encodes a human FcR protein, and more preferably, a human FcγRIIa protein, a human FcεRI protein, or a human FcγRIIIb protein. A nucleic acid molecule of the present invention can encode any portion of an FcR protein, preferably a full-length FcR protein, and more preferably a soluble form of FcR protein (i.e., a form of FcR protein capable of being secreted by a cell that produces such protein). A more preferred nucleic acid molecule to include in a recombinant vector, and particularly in a recombinant molecule, includes a nucleic acid molecule encoding a protein having the amino acid sequence represented by SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, or SEQ ID NO:13. A preferred nucleic acid molecule to include in a recombinant molecule includes sFcγRIIa and sFcεRI, the production of which are described in the Examples section.

A recombinant vector of the present invention can be either RNA or DNA, either prokaryotic or eukaryotic, and typically is a virus or a plasmid. Preferably, a nucleic acid

molecule encoding an FcR protein is inserted into a vector comprising an expression vector to form a recombinant molecule. As used herein, an expression vector is a DNA or RNA vector that is capable of transforming a host cell and of affecting expression of a specified nucleic acid molecule. Expression vectors of the present invention include any vectors that function (i.e., direct gene expression) in recombinant cells of the present invention, including in bacterial, fungal, endoparasite, insect, other animal, and plant cells. Preferred expression vectors of the present invention direct expression in insect cells. A more preferred expression vector of the present invention comprises pVL1392 baculovirus shuttle plasmid. A preferred recombinant molecule of the present invention comprises pVL-sFcγRIIa(a), pVL-sFcγRIIa(b), and pVL-sFcεRI.

An expression vector of the present invention can be transformed into any suitable host cell to form a recombinant cell. A suitable host cell includes any cell capable of expressing a nucleic acid molecule inserted into the expression vector. For example, a prokaryotic expression vector can be transformed into a bacterial host cell. A preferred host cell of the present invention includes a cell capable of expressing a baculovirus, in particular an insect cell, with *Spodoptera frugiperda* or *Trichoplusia ni* cells being preferred. A preferred recombinant cell of the present invention includes *S. frugiperda*:pVL-sFcγRIIa(a)/ pVL-sFcγRIIa(b) cells and *S. frugiperda*:pVL-sFcεRI the production of which is described herein.

One method to isolate FcR protein useful for producing FcR crystals includes recovery of recombinant proteins from cell cultures of recombinant cells expressing such FcR protein. In one embodiment, an isolated recombinant FcR

protein of the present invention is produced by culturing a cell capable of expressing the protein under conditions effective to produce the protein, and recovering the protein. A preferred cell to culture is a recombinant cell of the present invention. Effective culture conditions include, but are not limited to, effective media, bioreactor, temperature, pH and oxygen conditions and culture medium that permit protein production. Such culturing conditions are within the expertise of one of ordinary skill in the art. Examples of suitable conditions are included in the Examples section.

Preferably, a recombinant cell of the present invention expresses a secreted form of FcR protein. FcR proteins of the present invention can be purified using a variety of standard protein purification techniques, such as, but not limited to, affinity chromatography, ion exchange chromatography, filtration, electrophoresis, hydrophobic interaction chromatography, gel filtration chromatography, reverse phase chromatography, chromatofocusing and differential solubilization. Preferably, an FcR protein is purified in such a manner that the protein is purified sufficiently for formation of crystals useful for obtaining information related to the three dimensional structure of an FcR protein. Preferably, a composition of FcR protein is about 70%, more preferably 75%, more preferably 80%, more preferably 85% and more preferably 90% pure.

In one embodiment, a recombinant FcR protein is purified from a cell culture supernatant harvested between about 20 hours and about 60 hours post-infection, preferably between about 30 hours and about 50 hours post-infection, and more preferably about 40 hours post-infection. Preferably, an FcγRIIa protein is purified from a supernatant by a method comprising the steps: (a) applying supernatant from *S.*

frugiperda:pVL-sFcγRIIa(a)/pVL-sFcγRIIa(b) cells to an ion exchange column; (b) collecting unbound protein from the ion exchange column and applying the unbound protein to an immuno-affinity chromatography column; (c) eluting proteins bound to the immuno-affinity chromatography column and applying the eluted proteins to a gel filtration column; and (d) collecting filtered proteins from the gel filtration column to obtain the FcγRIIa protein. Preferably, an FcεRI protein is purified from a supernatant by a method comprising the steps: (a) applying supernatant from *S. frugiperda*:pVL-sFcεRI cells to an ion exchange column; (b) collecting unbound protein from the ion exchange column and applying the unbound protein to an immuno-affinity chromatography column; (c) eluting proteins bound to the immuno-affinity chromatography column and applying the eluted proteins to a gel filtration column; and (d) collecting filtered proteins from the gel filtration column to obtain the FcεRI protein.

In view of the high degree of amino acid sequence homology between human FcγR proteins and other members of the FcγR family of proteins, the methods of purification of the present invention are applicable for each member of the FcγR family. In addition, one of skill in the art will recognize that the purification methods of the present invention are generally useful for purifying any FcR protein, such as the FcεRI protein, except using IgE rather than IgG for the step of immuno-affinity chromatography purification, and such as the FcαRI protein, except using IgA rather than IgG for the purification step. Isolated protein of the members of the FcγR family of proteins, FcεR protein and FcαR protein may be obtained through recombinant DNA technology or may be purified from natural sources, including but not limited to, monocytes,

macrophages, neutrophils, eosinophils, platelets and B lymphocytes (i.e., B cells). Descriptions of recombinant production of isolated FcγRIIa and FcεRI proteins are described in the Examples section.

Another embodiment of the present invention includes a composition comprising FcR protein in a crystalline form (i.e.,FcR crystals). As used herein, the terms "crystalline FcR" and "FcR crystal" both refer to crystallized FcR protein and are intended to be used interchangeably. Preferably, a crystalline FcR is produced using the crystal formation method described herein, in particular according to the method disclosed in Example 6 or Example 9. A FcR crystal of the present invention can comprise any crystal structure and preferably precipitates as an orthorhombic crystal. A suitable crystalline FcR of the present invention includes a monomer or a multimer of FcR protein. A preferred crystalline FcR comprises one FcR protein in an asymmetric unit. A more preferred crystalline FcR comprises a dimer of FcR proteins.

A particular embodiment of the present invention includes a composition comprising FcγRIIa protein in a crystalline form (i.e., FcγRIIa crystals). As used herein, the terms "crystalline FcγRIIa" and "FcγRIIa crystal" both refer to crystallized FcγRIIa protein and are intended to be used interchangeably. Preferably, a crystal FcγRIIa is produced using the crystal formation method described herein, in particular according to the method disclosed in Example 6. A FcγRIIa crystal of the present invention can comprise any crystal structure and preferably precipitates as an orthorhombic crystal. Preferably, a composition of the present invention includes FcγRIIa protein molecules arranged in a crystalline manner in a space group $P2_12_12$, so as to form a unit cell of dimensions a = 78.80 Å, b = 100.55 Å, c = 27.85

Å. A preferred crystal of the present invention provides X-ray diffraction data for determination of atomic coordinates of the FcγRIIa protein to a resolution of about 3.0 Å, preferably about 2.4 Å, and more preferably at about 1.8 Å.

A suitable crystalline FcγRIIa of the present invention includes a monomer or a multimer of FcγRIIa protein. A preferred crystalline FcγRIIa comprises one FcγRIIa proteins in an asymmetric unit. A more preferred crystalline FcγRIIa comprises a dimer of FcγRIIa proteins.

Another particular embodiment of the present invention includes a composition comprising FcεRI protein in a crystalline form (i.e.,FcεRI crystals). As used herein, the terms "crystalline FcεRI" and "FcεRI crystal" both refer to crystallized FcεRI protein and are intended to be used interchangeably. Preferably, a crystal FcεRI is produced using the crystal formation method described herein, in particular according to the method disclosed in Example 9. A FcεRI crystal of the present invention can comprise any crystal structure and preferably precipitates as an orthorhombic crystal. A suitable crystalline FcεRI of the present invention includes a monomer or a multimer of FcεRI protein. A preferred crystalline FcεRI comprises one FcεRI protein in an asymmetric unit. A more preferred crystalline FcεRI comprises a dimer of FcεRI proteins.

According to the present invention, crystalline FcR can be used to determine the ability of a chemical compound of the present invention to bind to FcγRIIa protein a manner predicted by a structure based drug design method of the present invention. Preferably, an FcγRIIa crystal is soaked in a solution containing a chemical compound of the present invention. Binding of the chemical compound to the crystal is then determined by methods standard in the art.

One embodiment of the present invention is a therapeutic composition. A therapeutic composition of the present invention comprises one or more therapeutic compounds. Preferred therapeutic compounds of the present invention include inhibitory compounds and stimulatory compounds.

One embodiment of the present invention is a therapeutic composition that is capable of reducing IgG-mediated tissue damage. Suitable therapeutic compositions are capable of reducing IgG-mediated tissue damage resulting from IgG-mediated hypersensitivity or other biological mechanisms involved in IgG-mediated recruitment of inflammatory cells that involves FcγR protein. For example, a therapeutic composition of the present invention can: (1) inhibit (i.e., prevent, block) binding of FcγR protein on a cell having an FcγR protein (e.g., B cells, macrophage, neutrophil, eosinophil or platelet cells) to an IgG immune complex by interfering with the IgG binding site of an FcγR protein; (2) binding to the Fc portion of IgG to inhibit complement fixation by an IgG immune complex by interfering with the complement binding site of an IgG molecule; (3) inhibit precipitation of IgG or IgG immune complexes (i.e., prevent Fc:Fc interactions between two IgG); (4) inhibit immunoglobulin-mediated cellular signal transduction by interfering with the binding of an IgG to a cell surface receptor; (5) inhibit FcγR-mediated cellular signal transduction by interfering with the binding of a cell signal inducing molecule (i.e., a molecule that induces cellular signal transduction through an FcγR protein) to an FcγR protein; (6) inhibit opsinization of pathogens by inhibiting binding of IgG bound to a pathogen to FcγR protein on a phagocytic cell (e.g., to prevent antibody dependent enhancement (ADE) of viral infection, such as with

flaviviruses and dengue virus); and (7) inhibit the binding of viral molecules to FcγR protein (e.g., measles virus nucleocapsid protein). As used herein, the term "immune complex" refers to a complex that is formed when an antibody binds to a soluble antigen. As used herein, the term "complement fixation" refers to complement activation by an antigen:antibody complex that results in recruitment of inflammatory cells, typically by assembly of a complex comprising C3a and C5a, or generation of cleaved C4. As used herein, the term "binding site" refers to the region of a molecule (e.g., a protein) to which another molecule specifically binds. Such therapeutic compositions include one or more inhibitory compounds that inhibit binding of IgG to FcγR protein, IgG to complement, IgG to IgG, IgG to a cell surface receptor, a cell signal inducing molecule to FcγR protein, FcγR protein to virus or inhibit opsinization. Also included in the present invention are methods to reduce IgG-mediated tissue damage. The method includes the step of administering to an animal a therapeutic composition of the present invention.

Another embodiment of the present invention is a therapeutic composition that is capable of stimulating an IgG humoral immune response in an animal. Yet another embodiment of the present invention is a therapeutic composition that improves the therapeutic affects of an antibody that is administered to an animal to treat, by opsinization or FcγR-dependent effector functions (e.g. antibody-dependent FcγR-medicated cytotoxicity, phagocytosis or release of cellular mediators), a particular disease, including, but not limited to, cancer or infectious disease (e.g. oral infections such as HIV, herpes, bacterial infections, yeast infections or parasite infections). Such a therapeutic composition includes

one or more stimulatory compounds that have increased binding to IgG, enhance binding of IgG to FcγR, enhance dimer formation of an FcγR and/or enhance signal transduction through the FcγR. Also included in the present invention is a method to stimulate a humoral immune response. The method includes the step of administering to an animal a therapeutic composition of the present invention.

Suitable inhibitory compounds of the present invention are compounds that interact directly with an FcγR protein, preferably an FcγRIIa protein or an FcγRIIIb protein, thereby inhibiting the binding of IgG to an FcγR protein, by either blocking the IgG binding site of an FcγR (referred to herein as substrate analogs) or by modifying other regions of the FcγR protein (such as in the upper groove of the IgG binding cleft between the monomers of an FcγR dimer, at the dimer interface, in the cleft or hinge region between D1 and D2 on each monomer, and/or underneath the IgG binding cleft in the lower groove formed by the monomers of an FcγR dimer) such that IgG cannot bind to the FcγR (e.g., by allosteric interaction). A FcγR substrate analog refers to a compound that interacts with (e.g., binds to, associates with, modifies) the IgG binding site of an FcγR protein. A FcγR substrate analog can, for example, comprise a chemical compound that mimics the Fc portion of an IgG, or that binds specifically to the IgG binding site of an FcγR but does not mimic the Fc portion of an IgG. An inhibitory compound of the present invention can also include a compound that essentially mimics at least a portion of an FcγRIIa protein that binds to IgG (referred to herein as a peptidomimetic compound). Other suitable inhibitory compounds of the present invention include compounds that inhibit the binding of an FcγR protein to a cell signal inducing molecule other than

IgG. Examples of such cell signal inducing molecules include another FcγR (i.e., to form a dimer of FcγR proteins), or a cell surface accessory molecule, an intracellular accessory molecule or virus (e.g., measles virus nucleocapsid protein).

One embodiment of the present invention is a therapeutic composition that is capable of reducing IgE-mediated responses. Suitable therapeutic compositions are capable of reducing IgE-mediated responses resulting from IgE-mediated hypersensitivity, IgE-mediated release of inflammatory modulators or other biological mechanisms involved in IgE-mediated recruitment of inflammatory cells that involves FcεR protein. For example, a therapeutic composition of the present invention can: (1) inhibit (i.e., prevent, block) binding of FcεR protein on a cell having an FcεR protein (e.g., mast cells) to an IgE immune complex by interfering with the IgE binding site of an FcεR protein; (2) inhibit precipitation of IgE or IgE immune complexes (i.e., prevent Fc:Fc interactions between two IgE); (3) inhibit immunoglobulin-mediated cellular signal transduction by interfering with the binding of an IgE to a cell surface receptor; and (4) inhibit FcεR-mediated cellular signal transduction by interfering with the binding of a cell signal inducing molecule (i.e., a molecule that induces cellular signal transduction through an FcεR protein) to an FcεR protein. Such therapeutic compositions include one or more inhibitory compounds that inhibit binding of IgE to FcεR protein, IgE to IgE, IgE to a cell surface receptor, or a cell signal inducing molecule to FcεR protein. Also included in the present invention are methods to reduce IgE-mediated responses, such as IgE-mediated inflammation. The method includes the step of administering to an animal a therapeutic composition of the present invention.

Another embodiment of the present invention is a therapeutic composition that is capable of stimulating a IgE humoral immune response in an animal. Yet another embodiment of the present invention is a therapeutic composition that improves the therapeutic affects of an antibody that is administered to an animal to treat, by opsinization or FcεR-dependent effector functions (e.g. phagocytosis or release of cellular mediators), a particular disease. Such a therapeutic composition includes one or more stimulatory compounds that have increased binding to IgE, enhance binding of IgE to FcεRI, enhance dimer formation of FcεRI and/or otherwise enhance signal transduction through the FcεRI. Also included in the present invention is a method to stimulate a humoral immune response. The method includes the step of administering to an animal a therapeutic composition of the present invention.

Suitable inhibitory compounds of the present invention are compounds that interact directly with an FcεR protein, thereby inhibiting the binding of IgE to an FcεR protein, by either blocking the IgE binding site of an FcεR (referred to herein as substrate analogs) or by modifying other regions of the FcεR protein (such as in the upper groove of the IgE binding cleft between the monomers of an FcεRI dimer, at the dimer interface, in the cleft or hinge region between D1 and D2 on each monomer, and/or underneath the IgE binding cleft in the lower groove formed by the monomers of an FcεRI dimer) such that IgE cannot bind to the FcεR (e.g., by allosteric interaction). A FcεR substrate analog refers to a compound that interacts with (e.g., binds to, associates with, modifies) the IgE binding site of an FcεR protein. A FcεR substrate analog can, for example, comprise a chemical compound that mimics the Fc portion of an IgE, or that binds

specifically to the IgE binding site of an FcεR but does not mimic the Fc portion of an IgE. An inhibitory compound of the present invention can also include a compound that essentially mimics at least a portion of an FcεR protein that binds to IgE (referred to herein as a peptidomimetic compound). Other suitable inhibitory compounds of the present invention include compounds that inhibit the binding of an FcεR protein to a cell signal inducing molecule other than IgE. Examples of such cell signal inducing molecules include another FcεR (i.e., to form a dimer of FcεR proteins), or a cell surface accessory molecule, an intracellular accessory molecule or virus (e.g., measles virus nucleocapsid protein).

Inhibitory compounds of the present invention can be identified by various means known to those of skill in the art. For example, binding of an inhibitory compound to, or otherwise interaction with, an FcR protein, can be determined with FcR protein in solution or on cells using, for example, immunoassays such as enzyme linked immunoabsorbent assays (ELISA) and radioimmunoassays (RIA) or binding assays such as Biacore assays. Cell-based assays can include, for example, cytokine (e.g., IL-4, IL-6 or IL-12) secretion assays, or intracellular signal transduction assays that determine, for example, protein or lipid phosphorylation, mediator release or intracellular Ca^{++} mobilization upon FcR binding to a cell signal inducing molecule.

Suitable stimulatory therapeutic compounds of the present invention are compounds that exhibit improved binding to Ig when compared with the ability of a natural FcR protein (e.g., an FcR protein isolated from its natural milieu) to bind to Ig, and also include compounds that enhance the binding of Ig to its FcR or enhance signal transduction through the FcR. Stimulatory compounds of the present invention are identified

by their ability to: (1) bind to, or otherwise interact with, Ig at a higher level than, for example, natural FcR protein; (2) enhance binding of Ig to its FcR; (3) enhance dimer formation of an FcR by binding either to the FcR, to an Ig that binds to the FcR or to the combination of Ig bound to the FcR; and/or (4) enhance signal transduction through the FcR. Methods to determine improved binding of Ig to a stimulatory compound of the present invention compared with, for example, natural FcR protein, include binding assays that determine the stability of binding, affinity or kinetics at which an Ig binds to a stimulatory compound and a natural FcR protein. Such methods are well known to those of skill in the art and are disclosed herein in the Examples section. A stimulatory compound of the present invention can also include a compound that binds to an Ig or an FcR protein, thereby enhancing the binding of Ig to FcR protein or improving cellular signal transduction during or after the binding of Ig to FcR protein, by, for example, modifying other regions of the FcR or Ig by an allosteric interaction that modifies the Ig-binding site of FcR or the Fc portion of Ig that binds to an FcR protein. Another stimulatory compound of the present invention can include a compound that binds to FcR protein in the absence of Ig, in such a manner that FcR-mediated cellular signal transduction is stimulated.

One of skill in the art will understand that inhibitory or stimulatory compounds can also be developed based on the structure of any FcR and its Ig ligand, as described above for FcγR protein and IgG and FcεRI and IgE.

According to the present invention, suitable therapeutic compounds of the present invention include peptides or other organic molecules, and inorganic molecules. Suitable organic molecules include small organic molecules. Preferably, a

therapeutic compound of the present invention is not harmful (e.g., toxic) to an animal when such compound is administered to an animal. Peptides refer to a class of compounds that is small in molecular weight and yields two or more amino acids upon hydrolysis. A polypeptide is comprised of two or more peptides. As used herein, a protein is comprised of one or more polypeptides. Preferred therapeutic compounds to design include peptides composed of "L" and/or "D" amino acids that are configured as normal or retroinverso peptides, peptidomimetic compounds, small organic molecules, or homo- or hetero-polymers thereof, in linear or branched configurations.

Therapeutic compounds of the present invention can be designed using structure based drug design. Until the discovery of the three dimensional structure of the present invention, no information was available for structure based development of therapeutic compounds based on the structure of FcR protein. Such rational development heretofore could not be executed *de novo* from available linear amino acid sequence information. Structure based drug design refers to the use of computer simulation to predict a conformation of a peptide, polypeptide, protein, or conformational interaction between a peptide or polypeptide, and a therapeutic compound. For example, generally, for a protein to effectively interact with a therapeutic compound, it is necessary that the three dimensional structure of the therapeutic compound assume a compatible conformation that allows the compound to bind to the protein in such a manner that a desired result is obtained upon binding. Knowledge of the three dimensional structure of the protein enables a skilled artisan to design a therapeutic compound having such compatible conformation. For example, knowledge of the three dimensional structure of the IgG binding site of FcγRIIa protein enables one of skill in

the art to design a therapeutic compound that binds to FcγRIIa, is stable and results in inhibition of a biological response such as IgG binding to cells having FcγR, or cellular signal transduction, upon such binding. In addition, for example, knowledge of the three dimensional structure of the IgG binding site of FcγRIIa protein enables a skilled artisan to design a substrate analog of FcγRIIa protein.

Suitable structures and models useful for structure based drug design are disclosed herein. Preferred structures to use in a method of structure based drug design include a structure of FcγRIIa protein, a structure of FcεRI protein, a structure of an FcγRIIIb protein, and a model of a target FcR structure. Preferred models of target structures to use in a method of structure based drug design include models produced by any modeling method disclosed herein, including molecular replacement and fold recognition related methods.

One embodiment of the present invention is a computer-assisted method of structure based drug design of bioactive compounds, comprising: (a) providing a structure of a protein including a three dimensional structure of an FcR protein or a model of the present invention; (b) designing a chemical compound using the three dimensional structure or model; and (c) chemically synthesizing the chemical compound. Such a method can additionally include the step of (d) evaluating the bioactivity of the synthesized chemical compound. Suitable three dimensional structures an FcR protein and models to use with the present method are disclosed herein. According to the present invention, the step of designing can include creating a new chemical compound or searching databases of libraries of known compounds (e.g., a compound listed in a computational screening database containing three dimensional structures of known compounds).

Designing can also be performed by simulating chemical compounds having substitute moieties at certain structural features. The step of designing can include selecting a chemical compound based on a known function of the compound. A preferred step of designing comprises computational screening of one or more databases of compounds in which the three dimensional structure of the compound is known and is interacted (e.g., docked, aligned, matched, interfaced) with the three dimensional structure of an FcR protein by computer (e.g. as described by Humblet and Dunbar, *Animal Reports in Medicinal Chemistry*, vol. 28, pp. 275-283, 1993, M Venuti, ed., Academic Press). Methods to synthesize suitable chemical compounds are known to those of skill in the art and depend upon the structure of the chemical being synthesized. Methods to evaluate the bioactivity of the synthesized compound depend upon the bioactivity of the compound (e.g., inhibitory or stimulatory) and are disclosed herein.

Various other methods of structure-based drug design are disclosed in Maulik et al., 1997, *Molecular Biotechnology: Therapeutic Applications and Strategies*, Wiley-Liss, Inc., which is incorporated herein by reference in its entirety. Maulik et al. disclose, for example, methods of directed design, in which the user directs the process of creating novel molecules from a fragment library of appropriately selected fragments; random design, in which the user uses a genetic or other algorithm to randomly mutate fragments and their combinations while simultaneously applying a selection criterion to evaluate the fitness of candidate ligands; and a grid-based approach in which the user calculates the interaction energy between three dimensional receptor structures and small fragment probes, followed by linking together of favorable probe sites.

Preferably, a chemical compound of the present invention that binds to the Ig binding site of an FcR protein is known to originate from a chemical compound having chemical and/or stereochemical complementarity with FcR protein and/or Ig. Such complementarity is characteristic of a chemical compound that matches the surface of the receptor either in shape or in distribution of chemical groups and binds to FcR protein to promote or inhibit Ig binding to the FcR protein, or to induce cellular signal transduction upon binding to FcR protein. More preferably, a chemical compound that binds to the Ig binding site of an FcR protein associates with an affinity of at least about 10^{-6} M, and more preferably with an affinity of at least about 10^{-8} M.

Preferably, five sites of FcR protein are targets for structure based drug design. These sites include the Ig-binding site of FcR protein, the upper groove between two FcR monomers, the dimerization interface between two FcR protein monomers, the lower groove between two FcR monomers, the interface, cleft or hinge region between Domains 1 and 2 of FcR protein, and combinations of any of these sites (e.g., interacting with the Ig-binding site and the upper groove between monomers simultaneously). A schematic representation of these sites is shown in Fig. 17, with "a" representing the Ig-binding site of FcR protein, "b" representing the upper groove between two FcR monomers, "c" representing the dimerization interface between two FcR protein monomers, "d" representing the interface, cleft or hinge region between Domains 1 and 2 of FcR protein, and "e" representing the lower groove between two FcR monomers. The following discussion provides specific detail on drug-design using target sites of the FcR and as an example, references preferred target sites on the FcγRIIa structure. It is to be understood, however,

that one of skill in the art, using the description of the FcεRI structure and the FcγRIIIb structure provided herein, will be able to effectively select similar target sites on the FcεRI protein monomer and dimer for structure based drug design. Additionally, one of skill in the art, now being able to model the other FcR proteins based on the information provided herein, will also be able to effectively select similar target sites on the other FcR proteins for structure based drug design.

The Ig-binding site (Fig. 17; "a") is targeted to directly affect the binding of FcR to Ig (i.e., inhibition or enhancement). The IgG binding site of FcγRIIa protein, for example, includes, but is not limited to, residues 155, 156, 158-160, 113-116 , 129, 131, 133 and 134 of SEQ ID NO:3, and can also include at least a portion of the second site described above (Fig. 17; "b"), the groove between the two IgG binding sites that form upon dimerization of FcγRIIa protein. Residues from site "b" that are included in IgG binding include, but are not limited to, residues 117-121, 125-129, 150-154 and 157-161 of SEQ ID NO:3. A suitable target site for structure based drug design comprising the IgG binding site of FcγRIIa protein is illustrated in Fig. 7. More specifically, mutagenesis studies have identified several residues which have an effect on the binding of IgG, and the three dimensional structure disclosed herein clearly identifies which residues are surface exposed (i.e., are likely to participate in binding of IgG and are not just having an allosteric effect). These residues can be classified in three spatial groups: (1) Phe129, His131, Lys113, Pro114, Leu115, Val116; (2) Pro134 and Asp133; and (3) Leu159 and Ser161. Group (1) forms a continuous surface leading from the lip of the groove "b" (Fig. 17) across the

binding surface "a" (Fig. 17), and represents the most preferred target of design work at the site of IgG binding. Group (2) is separated from Group (1) by Leu132, which is currently of unknown importance in the binding of IgG, and may well be part of the surface exposed residues. Group (3) contains residues which are remote from the other two groups and do not appear to be available to participate in binding of the IgG by the dimer structure.

The upper groove between the two monomers of the FcR (Fig. 17; "b") is also targeted to directly affect the binding of FcR to Ig (i.e., inhibition or enhancement). The upper groove provides an attractive site to build into in contrast to targeting a flat protein surface. The dimer structure of the FcγRIIa protein suggests targeting C2 or pseudo C2 symmetric inhibitors. Preferred residues to target in the FcγRIIa protein include Lys117, His131, Phe129, Asn154, Ser161, Leu159, Thr152 and Phe121, with Phe129, Lys117 and His131 being most preferred. In one embodiment, compounds can be designed which interact with both the upper groove "b" and the IgG binding surface "a" simultaneously. For example, improved Ig regulatory compounds may be obtained by designing regulatory compounds which flow out of the groove and bind to the binding surface of "a" as described above. Alternatively, a regulatory compound which binds to "b" may sterically hinder binding of IgG to "a" without actually interacting with the "a" binding surface.

The receptor dimer interface (Fig. 17; "c") is targeted to directly affect the ability of two FcR proteins to form a dimer, thereby affecting cellular signal transduction through one or both of the FcR proteins. Without being bound by theory, the present inventors believe that dimer formation can affect cellular signal transduction or affect the conformation

of the Ig binding of one or both of the FcR proteins involved in the dimer, thereby affecting cellular signal transduction. In addition, the dimer interface represents an excellent target site because one monomer provides ligand information for the other monomer and vice versa. A suitable target site for structure based drug design comprising the dimerization interface between two FcγRIIa proteins is illustrated in Fig. 10. More specifically, residues 117-131 and residues 150-164 make up the interfacial area of the FcγRIIa dimer, and peptides from these sequences or their mimics may be binding inhibitors. An examination of hydrogen bonding interactions from the crystal structure of FcγRIIa indicates relatively few interactions between the monomers in the interfacial area, but a notable cluster is spanned by the hexapeptide Phe121-Gln122-Asn123-Gly124-Lys125-Ser126. Additionally, there is a hydrogen bond between the monomers involving Gly124-Ser561 and Ser126-Leu559. There are also some hydrophobic contacts made by the Lys125 sidechain and by the Phe121 phenyl ring.

The interface between Domains 1 and 2 (Fig. 17; "d") is targeted to affect IgG binding to an FcγRIIa protein. The present inventors have discovered that in the three dimensional structure of FcγRIIa protein, Domain 1 makes close contact with Domain 2. In particular, a loop comprising residues 17-20 of SEQ ID NO:3 in Domain 1 lie close to the loops of Domain 2 to form at least a portion of the IgG-binding site. Interactions with IgG are believed to occur close to the D1D2 interface and so alterations at this site may effect Ig binding. Additionally, a cleft is defined by residues 12-14 (base), 6-10 and 77-80 (D1 face) and 93-96 and 101 (D2 face), and as such represents a potential site for inhibitor design. A suitable target site for structure based

drug design comprising the interface between Domain 1 and Domain 2 of an FcγRIIa protein is illustrated in Fig. 5.

The lower groove between the two monomers of the FcR (Fig. 17; "e") is also targeted to directly affect the binding of FcR to Ig (i.e., inhibition or enhancement). A similar design strategy can be used for this site as described above for the upper groove "b", although it is less clear whether compounds binding to this site would be inhibitory, or more probably enhance IgG binding to the FcγR.

Drug design strategies as specifically described above with regard to residues and regions of the FcγRIIa monomer and dimer can be similarly applied to the other FcR structures, including the FcγRIIIb and FcεRI structures disclosed herein. One of ordinary skill in the art, using the art recognized modeling programs and drug design methods, many of which are described herein, will be able to modify the FcγRIIa design strategy according to differences in amino acid sequence and more favored structures, for example, in the other FcR, to similarly design compounds which regulate other FcR action. In addition, one of skill in the art could use lead compound structures derived from one FcR, such as the FcγRIIa protein, and taking into account differences in amino acid residues in another FcR protein, such as FcεRI, modify the FcγRIIa lead compound to design lead compound structures for regulation of the FcεRI protein. For example, His131>Tyr131 in the upper groove pharmacophore could be accommodated by changing an acidic moiety in an FcγRIIa lead compound structure to an electron deficient ketone moiety.

In the present method of structure based drug design, it is not necessary to align a candidate chemical compound (i.e., a chemical compound being analyzed in, for example, a computational screening method of the present invention) to

each residue in a target site. Suitable candidate chemical compounds can align to a subset of residues described for a target site. Preferably, a candidate chemical compound comprises a conformation that promotes the formation of covalent or noncovalent crosslinking between the target site and the candidate chemical compound. Preferably, a candidate chemical compound binds to a surface adjacent to a target site to provide an additional site of interaction in a complex. When designing an antagonist (i.e., a chemical compound that inhibits the binding of a ligand to FcR protein by blocking a binding site or interface), the antagonist should bind with sufficient affinity to the binding site or to substantially prohibit a ligand (i.e., a molecule that specifically binds to the target site) from binding to a target area. It will be appreciated by one of skill in the art that it is not necessary that the complementarity between a candidate chemical compound and a target site extend over all residues specified here in order to inhibit or promote binding of a ligand.

In general, the design of a chemical compound possessing stereochemical complementarity can be accomplished by means of techniques that optimize, chemically or geometrically, the "fit" between a chemical compound and a target site. Such techniques are disclosed by, for example, Sheridan and Venkataraghavan, *Acc. Chem Res.*, vol. 20, p. 322, 1987: Goodford, *J. Med. Chem.*, vol. 27, p. 557, 1984; Beddell, *Chem. Soc. Reviews*, vol. 279, 1985; Hol, *Angew. Chem.*, vol. 25, p. 767, 1986; and Verlinde and Hol, *Structure*, vol. 2, p. 577, 1994, each of which are incorporated by this reference herein in their entirety.

One embodiment of the present invention for structure based drug design comprises identifying a chemical compound

that complements the shape of an FcR protein or a structure that is related to an FcR protein. Such method is referred to herein as a "geometric approach". In a geometric approach of the present invention, the number of internal degrees of freedom (and the corresponding local minima in the molecular conformation space) is reduced by considering only the geometric (hard-sphere) interactions of two rigid bodies, where one body (the active site) contains "pockets" or "grooves" that form binding sites for the second body (the complementing molecule, such as a ligand).

The geometric approach is described by Kuntz et al., *J. Mol. Biol.*, vol. 161, p. 269, 1982, which is incorporated by this reference herein in its entirety. The algorithm for chemical compound design can be implemented using the software program DOCK Package, Version 1.0 (available from the Regents of the University of California). Pursuant to the Kuntz algorithm, the shape of the cavity or groove on the surface of a structure (e.g., FcγRIIa protein) at a binding site or interface is defined as a series of overlapping spheres of different radii. One or more extant databases of crystallographic data (e.g., the Cambridge Structural Database System maintained by University Chemical Laboratory, Cambridge University, Lensfield Road, Cambridge CB2 1EW, U.K.) or the Protein Data Bank maintained by Brookhaven National Laboratory, is then searched for chemical compounds that approximate the shape thus defined.

Chemical compounds identified by the geometric approach can be modified to satisfy criteria associated with chemical complementarity, such as hydrogen bonding, ionic interactions or Van der Waals interactions.

Another embodiment of the present invention for structure based drug design comprises determining the interaction of

chemical groups ("probes") with an active site at sample positions within and around a binding site or interface, resulting in an array of energy values from which three dimensional contour surfaces at selected energy levels can be generated. This method is referred to herein as a "chemical-probe approach." The chemical-probe approach to the design of a chemical compound of the present invention is described by, for example, Goodford, *J. Med. Chem.*, vol. 28, p. 849, 1985, which is incorporated by this reference herein in its entirety, and is implemented using an appropriate software package, including for example, GRID (available from Molecular Discovery Ltd., Oxford OX2 9LL, U.K.). The chemical prerequisites for a site-complementing molecule can be identified at the outset, by probing the active site of an FcγRIIa protein, for example, (as represented by the atomic coordinates shown in Table 1) with different chemical probes, e.g., water, a methyl group, an amine nitrogen, a carboxyl oxygen and/or a hydroxyl. Preferred sites for interaction between an active site and a probe are determined. Putative complementary chemical compounds can be generated using the resulting three dimensional pattern of such sites.

A therapeutic composition of the present invention can comprise one or more therapeutic compounds of the present invention. A therapeutic composition can further comprise other compounds capable of reducing Ig-mediated responses or increasing a humoral immune response. For example, a therapeutic composition of the present invention useful for reducing tissue damage can also include compounds that block recruitment of inflammatory cells, such as by, for example, blocking complement fixation, extravasation, block binding of viral proteins to FcR, block opsinization or enhance normal and passive antibody immunity. A therapeutic composition of

the present invention useful for reducing Ig-mediated inflammation can include compounds that block recruitment of inflammatory cells and/or block signal transduction pathway which leads to the release of inflammatory mediators.

A therapeutic composition of the present invention useful for increasing a humoral response can also include compounds that increase antibody production against an antigen (i.e., adjuvants), including, but not limited to, cytokines, chemokines, and compounds that induce the production of cytokines and chemokines (e.g., granulocyte macrophage colony stimulating factor (GM-CSF), granulocyte colony stimulating factor (G-CSF), macrophage colony stimulating factor (M-CSF), colony stimulating factor (CSF), erythropoietin (EPO), interleukin 2 (IL-2), interleukin-3 (IL-3), interleukin 4 (IL-4), interleukin 5 (IL-5), interleukin 6 (IL-6), interleukin 7 (IL-7), interleukin 8 (IL-8), interleukin 10 (IL-10), interleukin 12 (IL-12), interferon gamma, interferon gamma inducing factor I (IGIF), transforming growth factor beta, RANTES (regulated upon activation, normal T cell expressed and presumably secreted), macrophage inflammatory proteins (e.g., MIP-1 alpha and MIP-1 beta), bacterial components (e.g., endotoxins, in particular superantigens, exotoxins and cell wall components); aluminum-based salts; calcium-based salts; silica; polynucleotides; toxoids; serum proteins, viral coat proteins; block copolymer adjuvants (e.g., Hunter's Titermax™ adjuvant (Vaxcel™, Inc. Norcross, GA), Ribi adjuvants (Ribi ImmunoChem Research, Inc., Hamilton, MT); and saponins and their derivatives (e.g., Quil A (Superfos Biosector A/S, Denmark).

A therapeutic composition of the present invention can be used to treat disease in an animal by administering such composition to an animal in such a manner that desired

therapeutic results are obtained. Preferred animals to treat include mammals, marsupials, reptiles and birds, with humans, companion animals, food animals, zoo animals and other economically relevant animals (e.g., race horses and animals valued for their coats, such as chinchillas and minks). More preferred animals to treat include humans, dogs, cats, horses, cattle, sheep, swine, chickens, ostriches, emus, turkeys, koalas and kangaroos. Particularly preferred animals to protect are humans, dogs and cats.

A preferred therapeutic composition of the present invention also includes an excipient, an adjuvant and/or carrier. Suitable excipients include compounds that the animal to be treated can tolerate. Examples of such excipients include water, saline, Ringer's solution, dextrose solution, Hank's solution, and other aqueous physiologically balanced salt solutions. Nonaqueous vehicles, such as fixed oils, sesame oil, ethyl oleate, or triglycerides may also be used. Other useful formulations include suspensions containing viscosity enhancing agents, such as sodium carboxymethylcellulose, sorbitol, or dextran. Excipients can also contain minor amounts of additives, such as substances that enhance isotonicity and chemical stability. Examples of buffers include phosphate buffer, bicarbonate buffer and Tris buffer, while examples of preservatives include thimerosal, o-cresol, formalin and benzyl alcohol. Standard formulations can either be liquid injectables or solids which can be taken up in a suitable liquid as a suspension or solution for injection. Thus, in a non-liquid formulation, the excipient can comprise dextrose, human serum albumin, preservatives, etc., to which sterile water or saline can be added prior to administration.

In one embodiment of the present invention, a therapeutic composition can include a carrier. Carriers include compounds that increase the half-life of a therapeutic composition in the treated animal. Suitable carriers include, but are not limited to, polymeric controlled release vehicles, biodegradable implants, liposomes, bacteria, viruses, other cells, oils, esters, and glycols.

Acceptable protocols to administer therapeutic compositions of the present invention in an effective manner include individual dose size, number of doses, frequency of dose administration, and mode of administration. Determination of such protocols can be accomplished by those skilled in the art. Modes of administration can include, but are not limited to, subcutaneous, intradermal, intravenous, intranasal, oral, transdermal, intraocular and intramuscular routes.

Another embodiment of the present invention are diagnostic compounds capable of detecting altered FcR protein on or isolated from cells obtained from patients having abnormal immunity or inflammation. Using the methods of structure based drug design described herein, diagnostic reagents that bind to FcR protein can be developed using the three dimensional structure of FcR protein. Preferred diagnostic reagents of the present invention include molecules capable of binding to the Ig binding site of an FcR protein capable of binding to Ig and molecules capable of binding to circulating FcR protein obtained from patients with inflammation. Preferred diagnostic reagents include molecules that are immunogenic or can be chemically coupled to detectable compounds, such as radioisotopes, enzymes, dyes or biotin.

In a preferred embodiment, a therapeutic compound or diagnostic compound of the present invention comprises a protein engineered by recombinant DNA methods.

TABLE 1

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REMARK Latest coordinates of the Fc Gamma Receptor IIa structure
REMARK Written by O version 5.10.1
REMARK Wed May 20 10:23:51 1998
CRYST1   79.221  100.866   28.172  90.00  90.00  90.00
ORIGX1      1.000000  0.000000  0.000000        0.00000
ORIGX2      0.000000  1.000000  0.000000        0.00000
ORIGX3      0.000000  0.000000  1.000000        0.00000
SCALE1      0.012623  0.000000  0.000000        0.00000
SCALE2      0.000000  0.009914  0.000000        0.00000
SCALE3      0.000000  0.000000  0.035496        0.00000
ATOM      1  CB  ALA     1      36.645  68.826  -4.702  1.00 51.37   6
ATOM      2  C   ALA     1      36.199  68.294  -2.285  1.00 42.22   6
ATOM      3  O   ALA     1      36.801  67.492  -1.569  1.00 42.70   8
ATOM      4  N   ALA     1      34.367  68.121  -3.997  1.00 45.74   7
ATOM      5  CA  ALA     1      35.829  67.992  -3.724  1.00 43.68   6
ATOM      6  N   PRO     2      35.903  69.499  -1.817  1.00 40.54   7
ATOM      7  CD  PRO     2      35.149  70.546  -2.533  1.00 38.91   6
ATOM      8  CA  PRO     2      36.172  69.844  -0.425  1.00 38.61   6
ATOM      9  CB  PRO     2      35.765  71.300  -0.322  1.00 39.86   6
ATOM     10  CG  PRO     2      34.790  71.513  -1.426  1.00 41.36   6
ATOM     11  C   PRO     2      35.294  68.931   0.434  1.00 36.70   6
ATOM     12  O   PRO     2      34.188  68.654  -0.042  1.00 32.46   8
ATOM     13  N   PRO     3      35.789  68.496   1.579  1.00 33.82   7
ATOM     14  CD  PRO     3      37.120  68.857   2.110  1.00 35.16   6
ATOM     15  CA  PRO     3      35.069  67.637   2.491  1.00 38.25   6
ATOM     16  CB  PRO     3      35.872  67.639   3.799  1.00 37.39   6
ATOM     17  CG  PRO     3      37.180  68.267   3.486  1.00 37.41   6
ATOM     18  C   PRO     3      33.653  68.136   2.790  1.00 37.48   6
ATOM     19  O   PRO     3      33.393  69.335   2.683  1.00 34.39   8
ATOM     20  N   LYS     4      32.763  67.212   3.173  1.00 37.04   7
ATOM     21  CA  LYS     4      31.399  67.678   3.424  1.00 34.97   6
ATOM     22  CB  LYS     4      30.318  66.664   3.122  1.00 43.98   6
ATOM     23  CG  LYS     4      30.564  65.191   3.278  1.00 47.64   6
ATOM     24  CD  LYS     4      29.775  64.349   2.292  1.00 52.03   6
ATOM     25  CE  LYS     4      28.317  64.743   2.137  1.00 57.56   6
ATOM     26  NZ  LYS     4      27.724  64.253   0.855  1.00 56.40   7
ATOM     27  C   LYS     4      31.243  68.234   4.825  1.00 31.44   6
ATOM     28  O   LYS     4      31.846  67.769   5.784  1.00 29.91   8
ATOM     29  N   ALA     5      30.416  69.280   4.908  1.00 28.75   7
ATOM     30  CA  ALA     5      30.039  69.813   6.218  1.00 27.21   6
ATOM     31  CB  ALA     5      29.155  71.032   6.110  1.00 21.94   6
ATOM     32  C   ALA     5      29.278  68.683   6.923  1.00 26.42   6
ATOM     33  O   ALA     5      28.760  67.794   6.222  1.00 26.10   8
ATOM     34  N   VAL     6      29.231  68.674   8.241  1.00 24.91   7
ATOM     35  CA  VAL     6      28.515  67.632   8.985  1.00 26.95   6
ATOM     36  CB  VAL     6      29.490  66.738   9.770  1.00 29.36   6
ATOM     37  CG1 VAL     6      28.779  65.726  10.676  1.00 29.86   6
ATOM     38  CG2 VAL     6      30.434  66.024   8.801  1.00 26.74   6
ATOM     39  C   VAL     6      27.503  68.253   9.942  1.00 28.93   6
ATOM     40  O   VAL     6      27.846  68.994  10.866  1.00 31.46   8
ATOM     41  N   LEU     7      26.233  67.929   9.758  1.00 30.08   7
ATOM     42  CA  LEU     7      25.105  68.383  10.546  1.00 29.33   6
ATOM     43  CB  LEU     7      23.839  68.346   9.657  1.00 33.18   6
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ATOM     44  CG  LEU     7      22.828  69.458   9.960  1.00 34.94   6
ATOM     45  CD1 LEU     7      22.082  69.876   8.721  1.00 27.55   6
ATOM     46  CD2 LEU     7      21.887  69.002  11.069  1.00 32.30   6
ATOM     47  C   LEU     7      24.816  67.565  11.794  1.00 29.57   6
ATOM     48  O   LEU     7      24.653  66.351  11.800  1.00 30.04   8
ATOM     49  N   LYS     8      24.768  68.242  12.930  1.00 28.04   7
ATOM     50  CA  LYS     8      24.568  67.692  14.257  1.00 25.12   6
ATOM     51  CB  LYS     8      25.738  68.179  15.132  1.00 33.32   6
ATOM     52  CG  LYS     8      25.777  67.611  16.532  1.00 39.37   6
ATOM     53  CD  LYS     8      25.967  68.598  17.652  1.00 43.84   6
ATOM     54  CE  LYS     8      27.129  69.561  17.487  1.00 47.78   6
ATOM     55  NZ  LYS     8      27.525  70.175  18.793  1.00 48.98   7
ATOM     56  C   LYS     8      23.233  68.192  14.797  1.00 24.53   6
ATOM     57  O   LYS     8      22.934  69.384  14.739  1.00 25.35   8
ATOM     58  N   LEU     9      22.423  67.310  15.333  1.00 24.78   7
ATOM     59  CA  LEU     9      21.080  67.553  15.843  1.00 22.07   6
ATOM     60  CB  LEU     9      20.189  66.483  15.190  1.00 20.04   6
ATOM     61  CG  LEU     9      18.725  66.363  15.596  1.00 20.57   6
ATOM     62  CD1 LEU     9      17.980  67.624  15.214  1.00 19.57   6
ATOM     63  CD2 LEU     9      18.084  65.137  14.903  1.00 23.44   6
ATOM     64  C   LEU     9      21.019  67.415  17.346  1.00 21.01   6
ATOM     65  O   LEU     9      21.424  66.393  17.869  1.00 22.38   8
ATOM     66  N   GLU    10      20.583  68.410  18.118  1.00 22.53   7
ATOM     67  CA  GLU    10      20.480  68.285  19.567  1.00 21.02   6
ATOM     68  CB  GLU    10      21.523  69.182  20.270  1.00 27.36   6
ATOM     69  CGA GLU    10      22.971  68.778  20.090  0.50 28.21   6
ATOM     70  CGB GLU    10      22.946  68.657  20.195  0.50 38.29   6
ATOM     71  CDA GLU    10      24.047  69.789  20.422  0.50 28.55   6
ATOM     72  CDB GLU    10      23.100  67.202  20.587  0.50 43.48   6
ATOM     73  OE1 GLU    10      25.131  69.365  20.907  0.50 26.56   8
ATOM     74  OE1 GLU    10      22.443  66.771  21.565  0.50 47.24   8
ATOM     75  OE2 GLU    10      23.888  71.008  20.186  0.50 22.10   8
ATOM     76  OE2 GLU    10      23.871  66.486  19.908  0.50 46.42   8
ATOM     77  C   GLU    10      19.096  68.728  20.008  1.00 19.76   6
ATOM     78  O   GLU    10      18.701  69.842  19.613  1.00 18.00   8
ATOM     79  N   PRO    11      18.423  67.995  20.888  1.00 19.07   7
ATOM     80  CD  PRO    11      17.058  68.340  21.390  1.00 18.71   6
ATOM     81  CA  PRO    11      18.834  66.662  21.319  1.00 18.84   6
ATOM     82  CB  PRO    11      17.807  66.272  22.365  1.00 17.38   6
ATOM     83  CG  PRO    11      16.560  67.000  21.944  1.00 18.86   6
ATOM     84  C   PRO    11      18.787  65.758  20.090  1.00 20.01   6
ATOM     85  O   PRO    11      18.310  66.212  19.051  1.00 16.22   8
ATOM     86  N   PRO    12      19.232  64.517  20.155  1.00 19.94   7
ATOM     87  CD  PRO    12      19.915  63.948  21.361  1.00 21.08   6
ATOM     88  CA  PRO    12      19.409  63.700  18.976  1.00 20.68   6
ATOM     89  CB  PRO    12      20.455  62.656  19.397  1.00 19.82   6
ATOM     90  CG  PRO    12      20.292  62.567  20.872  1.00 23.59   6
ATOM     91  C   PRO    12      18.179  63.061  18.395  1.00 18.70   6
ATOM     92  O   PRO    12      18.268  62.475  17.318  1.00 19.85   8
ATOM     93  N   TRP    13      17.039  63.169  19.059  1.00 15.64   7
ATOM     94  CA  TRP    13      15.815  62.568  18.561  1.00 17.91   6
ATOM     95  CB  TRP    13      14.688  62.840  19.562  1.00 14.32   6
ATOM     96  CG  TRP    13      15.124  62.749  21.006  1.00 16.77   6
ATOM     97  CD2 TRP    13      15.633  61.612  21.703  1.00 16.90   6
ATOM     98  CE2 TRP    13      15.899  62.005  23.032  1.00 16.87   6
ATOM     99  CE3 TRP    13      15.867  60.279  21.350  1.00 18.03   6
ATOM    100  CD1 TRP    13      15.106  63.769  21.916  1.00 18.97   6
ATOM    101  NE1 TRP    13      15.589  63.343  23.137  1.00 11.16   7
ATOM    102  CZ2 TRP    13      16.405  61.124  23.973  1.00 15.92   6
ATOM    103  CZ3 TRP    13      16.358  59.409  22.301  1.00 10.59   6
ATOM    104  CH2 TRP    13      16.645  59.825  23.611  1.00 17.87   6
ATOM    105  C   TRP    13      15.421  63.033  17.163  1.00 19.47   6
ATOM    106  O   TRP    13      15.283  64.238  16.908  1.00 17.22   8
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ATOM	107	N	ILE	14	15.101	62.078	16.275	1.00	16.57	7
ATOM	108	CA	ILE	14	14.666	62.441	14.936	1.00	18.93	6
ATOM	109	CB	ILE	14	15.185	61.523	13.816	1.00	16.07	6
ATOM	110	CG2	ILE	14	16.720	61.521	13.840	1.00	16.61	6
ATOM	111	CG1	ILE	14	14.582	60.119	13.972	1.00	21.35	6
ATOM	112	CD1	ILE	14	15.045	59.150	12.896	1.00	26.28	6
ATOM	113	C	ILE	14	13.144	62.549	14.825	1.00	20.48	6
ATOM	114	O	ILE	14	12.652	63.048	13.817	1.00	19.41	8
ATOM	115	N	ASN	15	12.403	62.087	15.836	1.00	19.46	7
ATOM	116	CA	ASN	15	10.935	62.270	15.778	1.00	18.11	6
ATOM	117	CB	ASN	15	10.161	60.962	15.731	1.00	13.53	6
ATOM	118	CG	ASN	15	10.591	59.946	16.762	1.00	19.11	6
ATOM	119	OD1	ASN	15	11.728	59.959	17.227	1.00	13.35	8
ATOM	120	ND2	ASN	15	9.688	59.033	17.142	1.00	10.11	7
ATOM	121	C	ASN	15	10.632	63.124	17.005	1.00	17.54	6
ATOM	122	O	ASN	15	11.016	62.735	18.111	1.00	15.32	8
ATOM	123	N	VAL	16	10.122	64.331	16.805	1.00	16.86	7
ATOM	124	CA	VAL	16	9.871	65.273	17.893	1.00	15.77	6
ATOM	125	CB	VAL	16	10.761	66.534	17.748	1.00	16.54	6
ATOM	126	CG1	VAL	16	12.251	66.141	17.733	1.00	13.42	6
ATOM	127	CG2	VAL	16	10.490	67.345	16.491	1.00	18.04	6
ATOM	128	C	VAL	16	8.420	65.708	17.921	1.00	19.01	6
ATOM	129	O	VAL	16	7.618	65.381	17.010	1.00	17.12	8
ATOM	130	N	LEU	17	8.022	66.422	18.964	1.00	17.68	7
ATOM	131	CA	LEU	17	6.664	66.962	19.068	1.00	15.11	6
ATOM	132	CB	LEU	17	6.162	66.726	20.522	1.00	20.26	6
ATOM	133	CG	LEU	17	5.873	65.251	20.823	1.00	23.07	6
ATOM	134	CD1	LEU	17	5.447	65.013	22.253	1.00	17.70	6
ATOM	135	CD2	LEU	17	4.832	64.714	19.855	1.00	26.74	6
ATOM	136	C	LEU	17	6.563	68.439	18.732	1.00	16.37	6
ATOM	137	O	LEU	17	7.518	69.187	18.961	1.00	18.24	8
ATOM	138	N	GLN	18	5.424	68.931	18.227	1.00	18.55	7
ATOM	139	CA	GLN	18	5.237	70.370	18.032	1.00	19.13	6
ATOM	140	CB	GLN	18	3.790	70.721	17.696	1.00	31.65	6
ATOM	141	CG	GLN	18	3.510	71.249	16.314	1.00	37.32	6
ATOM	142	CD	GLN	18	2.120	70.902	15.800	1.00	36.92	6
ATOM	143	OE1	GLN	18	1.953	70.032	14.943	1.00	30.97	8
ATOM	144	NE2	GLN	18	1.135	71.618	16.333	1.00	31.73	7
ATOM	145	C	GLN	18	5.561	71.077	19.348	1.00	19.43	6
ATOM	146	O	GLN	18	5.194	70.568	20.413	1.00	18.10	8
ATOM	147	N	GLU	19	6.317	72.164	19.232	1.00	19.68	7
ATOM	148	CA	GLU	19	6.727	73.045	20.293	1.00	18.88	6
ATOM	149	CB	GLU	19	5.597	73.341	21.293	1.00	27.39	6
ATOM	150	CG	GLU	19	4.649	74.418	20.714	1.00	30.12	6
ATOM	151	CD	GLU	19	3.558	74.699	21.720	1.00	41.87	6
ATOM	152	OE1	GLU	19	3.857	75.330	22.758	1.00	48.83	8
ATOM	153	OE2	GLU	19	2.421	74.272	21.464	1.00	46.61	8
ATOM	154	C	GLU	19	8.004	72.622	20.998	1.00	21.46	6
ATOM	155	O	GLU	19	8.496	73.405	21.815	1.00	26.39	8
ATOM	156	N	ASP	20	8.606	71.506	20.619	1.00	19.91	7
ATOM	157	CA	ASP	20	9.898	71.094	21.114	1.00	20.76	6
ATOM	158	CB	ASP	20	10.285	69.649	20.726	1.00	13.47	6
ATOM	159	CG	ASP	20	9.587	68.578	21.526	1.00	13.93	6
ATOM	160	OD1	ASP	20	8.873	68.805	22.534	1.00	17.57	8
ATOM	161	OD2	ASP	20	9.723	67.405	21.104	1.00	13.79	8
ATOM	162	C	ASP	20	11.002	71.950	20.451	1.00	19.58	6
ATOM	163	O	ASP	20	10.913	72.219	19.262	1.00	17.49	8
ATOM	164	N	SER	21	12.071	72.198	21.174	1.00	17.22	7
ATOM	165	CA	SER	21	13.233	72.929	20.659	1.00	17.62	6
ATOM	166	CBA	SER	21	14.011	73.525	21.844	0.50	17.49	6
ATOM	167	CBB	SER	21	13.981	73.556	21.846	0.50	13.14	6
ATOM	168	OGA	SER	21	14.900	74.516	21.355	0.50	22.95	8
ATOM	169	OGB	SER	21	13.175	74.579	22.416	0.50	6.85	8

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ATOM    170  C   SER  21      14.181  72.038  19.873  1.00 18.61   6
ATOM    171  O   SER  21      14.424  70.884  20.265  1.00 21.41   8
ATOM    172  N   VAL  22      14.638  72.512  18.721  1.00 15.80   7
ATOM    173  CA  VAL  22      15.585  71.733  17.910  1.00 17.93   6
ATOM    174  CB  VAL  22      15.052  71.234  16.560  1.00 20.37   6
ATOM    175  CG1 VAL  22      16.093  70.401  15.804  1.00 17.77   6
ATOM    176  CG2 VAL  22      13.858  70.300  16.679  1.00 17.26   6
ATOM    177  C   VAL  22      16.822  72.609  17.665  1.00 19.20   6
ATOM    178  O   VAL  22      16.633  73.769  17.291  1.00 18.52   8
ATOM    179  N   THR  23      18.021  72.107  17.917  1.00 16.32   7
ATOM    180  CA  THR  23      19.249  72.823  17.648  1.00 19.99   6
ATOM    181  CB  THR  23      20.080  73.128  18.911  1.00 22.97   6
ATOM    182  OG1 THR  23      19.192  73.749  19.850  1.00 18.42   8
ATOM    183  CG2 THR  23      21.241  74.057  18.614  1.00 16.78   6
ATOM    184  C   THR  23      20.098  72.016  16.658  1.00 24.68   6
ATOM    185  O   THR  23      20.509  70.880  16.897  1.00 22.59   8
ATOM    186  N   LEU  24      20.257  72.618  15.467  1.00 23.73   7
ATOM    187  CA  LEU  24      21.081  72.051  14.423  1.00 23.11   6
ATOM    188  CB  LEU  24      20.427  72.206  13.046  1.00 20.25   6
ATOM    189  CG  LEU  24      19.053  71.480  12.959  1.00 23.95   6
ATOM    190  CD1 LEU  24      18.324  71.856  11.681  1.00 20.78   6
ATOM    191  CD2 LEU  24      19.251  69.985  13.049  1.00 22.74   6
ATOM    192  C   LEU  24      22.444  72.763  14.450  1.00 25.87   6
ATOM    193  O   LEU  24      22.470  74.008  14.537  1.00 24.57   8
ATOM    194  N   THR  25      23.520  71.980  14.367  1.00 20.22   7
ATOM    195  CA  THR  25      24.847  72.600  14.336  1.00 23.21   6
ATOM    196  CB  THR  25      25.656  72.265  15.597  1.00 27.69   6
ATOM    197  OG1 THR  25      24.945  72.730  16.755  1.00 26.30   8
ATOM    198  CG2 THR  25      27.041  72.925  15.590  1.00 28.49   6
ATOM    199  C   THR  25      25.604  72.166  13.075  1.00 22.31   6
ATOM    200  O   THR  25      25.706  70.951  12.819  1.00 23.86   8
ATOM    201  N   CYS  26      26.092  73.134  12.307  1.00 18.68   7
ATOM    202  CA  CYS  26      26.832  72.888  11.075  1.00 23.20   6
ATOM    203  C   CYS  26      28.345  72.910  11.346  1.00 23.06   6
ATOM    204  O   CYS  26      28.957  73.980  11.556  1.00 23.76   8
ATOM    205  CB  CYS  26      26.509  73.881   9.958  1.00 17.92   6
ATOM    206  SG  CYS  26      27.138  73.358   8.311  1.00 22.25  16
ATOM    207  N   GLN  27      28.929  71.729  11.355  1.00 19.35   7
ATOM    208  CA  GLN  27      30.332  71.521  11.658  1.00 23.30   6
ATOM    209  CB  GLN  27      30.543  70.209  12.464  1.00 29.78   6
ATOM    210  CG  GLN  27      29.623  70.044  13.672  1.00 31.50   6
ATOM    211  CD  GLN  27      29.927  68.828  14.518  1.00 33.01   6
ATOM    212  OE1 GLN  27      30.322  67.774  14.032  1.00 38.67   8
ATOM    213  NE2 GLN  27      29.792  68.895  15.834  1.00 36.36   7
ATOM    214  C   GLN  27      31.169  71.417  10.377  1.00 26.33   6
ATOM    215  O   GLN  27      30.764  70.856   9.347  1.00 23.15   8
ATOM    216  N   GLY  28      32.363  72.019  10.438  1.00 27.69   7
ATOM    217  CA  GLY  28      33.289  72.019   9.313  1.00 28.02   6
ATOM    218  C   GLY  28      34.022  73.360   9.215  1.00 29.41   6
ATOM    219  O   GLY  28      33.639  74.335   9.862  1.00 28.46   8
ATOM    220  N   ALA  29      35.062  73.421   8.389  1.00 27.48   7
ATOM    221  CA  ALA  29      35.824  74.640   8.210  1.00 27.39   6
ATOM    222  CB  ALA  29      36.979  74.353   7.239  1.00 25.91   6
ATOM    223  C   ALA  29      34.959  75.730   7.574  1.00 28.27   6
ATOM    224  O   ALA  29      34.315  75.415   6.561  1.00 26.07   8
ATOM    225  N   ARG  30      35.060  76.951   8.064  1.00 23.97   7
ATOM    226  CA  ARG  30      34.303  78.055   7.490  1.00 27.17   6
ATOM    227  CB  ARG  30      33.571  78.823   8.601  1.00 30.34   6
ATOM    228  CG  ARG  30      32.574  78.090   9.460  1.00 34.05   6
ATOM    229  CD  ARG  30      32.365  78.880  10.761  1.00 33.86   6
ATOM    230  NE  ARG  30      32.407  77.902  11.836  1.00 38.60   7
ATOM    231  CZ  ARG  30      32.487  78.082  13.126  1.00 38.08   6
ATOM    232  NH1 ARG  30      32.567  79.298  13.635  1.00 36.51   7
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ATOM	233	NH2	ARG	30	32.467	76.990	13.879	1.00	46.13	7
ATOM	234	C	ARG	30	35.194	79.148	6.880	1.00	26.70	6
ATOM	235	O	ARG	30	36.399	79.142	7.075	1.00	29.22	8
ATOM	236	N	SER	31	34.573	80.129	6.246	1.00	26.85	7
ATOM	237	CA	SER	31	35.315	81.284	5.738	1.00	26.56	6
ATOM	238	CB	SER	31	34.682	81.846	4.476	1.00	25.03	6
ATOM	239	OG	SER	31	34.562	80.875	3.477	1.00	27.59	8
ATOM	240	C	SER	31	35.273	82.321	6.861	1.00	26.58	6
ATOM	241	O	SER	31	34.396	82.246	7.739	1.00	23.91	8
ATOM	242	N	PRO	32	36.163	83.308	6.839	1.00	23.48	7
ATOM	243	CD	PRO	32	37.224	83.483	5.842	1.00	22.70	6
ATOM	244	CA	PRO	32	36.176	84.350	7.861	1.00	24.75	6
ATOM	245	CB	PRO	32	37.621	84.830	7.805	1.00	24.34	6
ATOM	246	CG	PRO	32	38.095	84.571	6.414	1.00	23.77	6
ATOM	247	C	PRO	32	35.172	85.449	7.549	1.00	29.23	6
ATOM	248	O	PRO	32	35.472	86.609	7.223	1.00	28.28	8
ATOM	249	N	GLU	33	33.913	85.121	7.709	1.00	29.77	7
ATOM	250	CA	GLU	33	32.725	85.896	7.417	1.00	33.37	6
ATOM	251	CBA	GLU	33	32.177	85.426	6.073	0.50	35.18	6
ATOM	252	CBB	GLU	33	32.123	85.457	6.084	0.50	31.98	6
ATOM	253	CGA	GLU	33	30.795	84.829	5.952	0.50	39.40	6
ATOM	254	CGB	GLU	33	31.776	83.990	5.954	0.50	34.05	6
ATOM	255	CDA	GLU	33	30.394	84.525	4.521	0.50	46.48	6
ATOM	256	CDB	GLU	33	31.601	83.533	4.517	0.50	34.67	6
ATOM	257	OE1	GLU	33	29.268	84.856	4.076	0.50	49.23	8
ATOM	258	OE1	GLU	33	32.194	84.168	3.619	0.50	32.81	8
ATOM	259	OE2	GLU	33	31.232	83.952	3.788	0.50	47.50	8
ATOM	260	OE2	GLU	33	30.877	82.542	4.275	0.50	24.64	8
ATOM	261	C	GLU	33	31.683	85.689	8.519	1.00	32.61	6
ATOM	262	O	GLU	33	31.612	84.600	9.085	1.00	28.72	8
ATOM	263	N	SER	34	30.844	86.682	8.743	1.00	32.15	7
ATOM	264	CA	SER	34	29.804	86.591	9.764	1.00	32.72	6
ATOM	265	CB	SER	34	29.277	88.013	10.037	1.00	34.26	6
ATOM	266	OG	SER	34	28.320	87.931	11.093	1.00	45.88	8
ATOM	267	C	SER	34	28.668	85.674	9.332	1.00	30.93	6
ATOM	268	O	SER	34	28.156	84.883	10.124	1.00	28.87	8
ATOM	269	N	ASP	35	28.222	85.773	8.082	1.00	28.02	7
ATOM	270	CA	ASP	35	27.167	84.858	7.599	1.00	28.62	6
ATOM	271	CB	ASP	35	26.292	85.538	6.585	1.00	29.65	6
ATOM	272	CG	ASP	35	25.357	86.639	7.057	1.00	37.43	6
ATOM	273	OD1	ASP	35	25.027	86.769	8.258	1.00	33.53	8
ATOM	274	OD2	ASP	35	24.902	87.396	6.154	1.00	36.01	8
ATOM	275	C	ASP	35	27.882	83.643	6.973	1.00	27.08	6
ATOM	276	O	ASP	35	27.997	83.566	5.756	1.00	28.07	8
ATOM	277	N	SER	36	28.461	82.748	7.774	1.00	25.55	7
ATOM	278	CA	SER	36	29.282	81.680	7.225	1.00	27.45	6
ATOM	279	CB	SER	36	30.440	81.431	8.213	1.00	34.87	6
ATOM	280	OG	SER	36	29.973	80.802	9.405	1.00	39.51	8
ATOM	281	C	SER	36	28.558	80.382	6.890	1.00	27.14	6
ATOM	282	O	SER	36	29.143	79.421	6.363	1.00	25.67	8
ATOM	283	N	ILE	37	27.293	80.223	7.231	1.00	24.64	7
ATOM	284	CA	ILE	37	26.580	78.973	6.977	1.00	24.33	6
ATOM	285	CB	ILE	37	26.164	78.307	8.309	1.00	30.71	6
ATOM	286	CG2	ILE	37	25.561	76.931	8.032	1.00	26.94	6
ATOM	287	CG1	ILE	37	27.333	78.221	9.308	1.00	21.66	6
ATOM	288	CD1	ILE	37	28.443	77.278	8.867	1.00	27.66	6
ATOM	289	C	ILE	37	25.336	79.159	6.128	1.00	24.08	6
ATOM	290	O	ILE	37	24.515	80.033	6.390	1.00	23.50	8
ATOM	291	N	GLN	38	25.122	78.314	5.127	1.00	24.52	7
ATOM	292	CA	GLN	38	23.862	78.296	4.399	1.00	23.13	6
ATOM	293	CB	GLN	38	24.016	78.068	2.905	1.00	29.28	6
ATOM	294	CG	GLN	38	24.458	79.296	2.123	1.00	29.86	6
ATOM	295	CD	GLN	38	24.692	78.965	0.661	1.00	33.48	6

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ATOM    296  OE1 GLN    38      25.540  78.122   0.323  1.00 28.34    8
ATOM    297  NE2 GLN    38      23.922  79.668  -0.177  1.00 38.54    7
ATOM    298  C   GLN    38      23.048  77.128   4.985  1.00 23.81    6
ATOM    299  O   GLN    38      23.598  76.022   5.087  1.00 22.62    8
ATOM    300  N   TRP    39      21.807  77.386   5.371  1.00 21.43    7
ATOM    301  CA  TRP    39      20.987  76.304   5.905  1.00 21.73    6
ATOM    302  CB  TRP    39      20.345  76.633   7.257  1.00 21.01    6
ATOM    303  CG  TRP    39      21.264  76.633   8.430  1.00 17.58    6
ATOM    304  CD2 TRP    39      21.721  75.523   9.212  1.00 17.00    6
ATOM    305  CE2 TRP    39      22.569  76.033  10.220  1.00 16.71    6
ATOM    306  CE3 TRP    39      21.495  74.147   9.158  1.00 21.47    6
ATOM    307  CD1 TRP    39      21.844  77.750   8.974  1.00 19.92    6
ATOM    308  NE1 TRP    39      22.626  77.400  10.061  1.00 22.18    7
ATOM    309  CZ2 TRP    39      23.218  75.220  11.152  1.00 18.29    6
ATOM    310  CZ3 TRP    39      22.109  73.329  10.091  1.00 21.62    6
ATOM    311  CH2 TRP    39      22.960  73.874  11.064  1.00 20.15    6
ATOM    312  C   TRP    39      19.890  75.993   4.898  1.00 22.76    6
ATOM    313  O   TRP    39      19.407  76.925   4.238  1.00 23.42    8
ATOM    314  N   PHE    40      19.533  74.701   4.758  1.00 22.91    7
ATOM    315  CA  PHE    40      18.512  74.389   3.754  1.00 26.86    6
ATOM    316  CB  PHE    40      19.121  73.722   2.513  1.00 24.16    6
ATOM    317  CG  PHE    40      20.225  74.429   1.788  1.00 23.96    6
ATOM    318  CD1 PHE    40      21.551  74.280   2.189  1.00 23.61    6
ATOM    319  CD2 PHE    40      19.945  75.244   0.696  1.00 22.47    6
ATOM    320  CE1 PHE    40      22.564  74.919   1.504  1.00 20.83    6
ATOM    321  CE2 PHE    40      20.967  75.880   0.020  1.00 21.69    6
ATOM    322  CZ  PHE    40      22.267  75.740   0.432  1.00 21.86    6
ATOM    323  C   PHE    40      17.466  73.435   4.349  1.00 23.51    6
ATOM    324  O   PHE    40      17.838  72.588   5.151  1.00 21.94    8
ATOM    325  N   HIS    41      16.232  73.575   3.905  1.00 21.59    7
ATOM    326  CA  HIS    41      15.107  72.771   4.366  1.00 24.07    6
ATOM    327  CB  HIS    41      14.032  73.572   5.099  1.00 18.72    6
ATOM    328  CG  HIS    41      12.864  72.727   5.548  1.00 23.41    6
ATOM    329  CD2 HIS    41      12.794  71.415   5.899  1.00 21.85    6
ATOM    330  ND1 HIS    41      11.588  73.218   5.709  1.00 21.97    7
ATOM    331  CE1 HIS    41      10.789  72.259   6.135  1.00 22.79    6
ATOM    332  NE2 HIS    41      11.504  71.161   6.268  1.00 21.87    7
ATOM    333  C   HIS    41      14.455  72.163   3.115  1.00 21.83    6
ATOM    334  O   HIS    41      13.972  72.919   2.282  1.00 21.37    8
ATOM    335  N   ASN    42      14.576  70.847   2.959  1.00 22.08    7
ATOM    336  CA  ASN    42      14.077  70.196   1.726  1.00 20.46    6
ATOM    337  CB  ASN    42      12.562  70.322   1.722  1.00 18.21    6
ATOM    338  CG  ASN    42      11.925  69.397   2.761  1.00 22.74    6
ATOM    339  OD1 ASN    42      12.473  68.343   3.087  1.00 24.40    8
ATOM    340  ND2 ASN    42      10.804  69.804   3.341  1.00 18.43    7
ATOM    341  C   ASN    42      14.733  70.811   0.488  1.00 21.32    6
ATOM    342  O   ASN    42      14.085  71.047  -0.533  1.00 20.13    8
ATOM    343  N   GLY    43      16.002  71.220   0.568  1.00 20.53    7
ATOM    344  CA  GLY    43      16.767  71.861  -0.480  1.00 20.83    6
ATOM    345  C   GLY    43      16.586  73.360  -0.661  1.00 24.51    6
ATOM    346  O   GLY    43      17.209  73.987  -1.550  1.00 25.30    8
ATOM    347  N   ASN    44      15.633  73.970   0.051  1.00 21.27    7
ATOM    348  CA  ASN    44      15.391  75.393  -0.112  1.00 20.46    6
ATOM    349  CB  ASN    44      13.903  75.734   0.000  1.00 23.82    6
ATOM    350  CG  ASN    44      13.049  74.834  -0.891  1.00 22.26    6
ATOM    351  OD1 ASN    44      12.148  74.144  -0.409  1.00 25.47    8
ATOM    352  ND2 ASN    44      13.382  74.787  -2.171  1.00 21.59    7
ATOM    353  C   ASN    44      16.208  76.143   0.937  1.00 19.78    6
ATOM    354  O   ASN    44      16.180  75.778   2.107  1.00 22.07    8
ATOM    355  N   LEU    45      16.907  77.188   0.523  1.00 22.22    7
ATOM    356  CA  LEU    45      17.730  77.962   1.459  1.00 21.67    6
ATOM    357  CB  LEU    45      18.391  79.141   0.715  1.00 28.15    6
ATOM    358  CG  LEU    45      19.159  80.171   1.538  1.00 29.14    6
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ATOM	359	CD1	LEU	45	20.479	79.571	2.002	1.00	25.07	6
ATOM	360	CD2	LEU	45	19.452	81.466	0.775	1.00	28.51	6
ATOM	361	C	LEU	45	16.825	78.559	2.525	1.00	22.27	6
ATOM	362	O	LEU	45	15.748	78.997	2.118	1.00	20.13	8
ATOM	363	N	ILE	46	17.263	78.604	3.766	1.00	20.11	7
ATOM	364	CA	ILE	46	16.539	79.322	4.835	1.00	24.64	6
ATOM	365	CB	ILE	46	16.657	78.508	6.132	1.00	22.24	6
ATOM	366	CG2	ILE	46	16.007	79.134	7.358	1.00	21.33	6
ATOM	367	CG1	ILE	46	16.111	77.072	5.945	1.00	20.74	6
ATOM	368	CD1	ILE	46	16.664	76.147	7.024	1.00	20.48	6
ATOM	369	C	ILE	46	17.351	80.625	5.006	1.00	25.53	6
ATOM	370	O	ILE	46	18.419	80.600	5.624	1.00	22.91	8
ATOM	371	N	PRO	47	16.937	81.747	4.444	1.00	30.56	7
ATOM	372	CD	PRO	47	15.704	81.884	3.620	1.00	32.61	6
ATOM	373	CA	PRO	47	17.731	82.968	4.434	1.00	30.93	6
ATOM	374	CB	PRO	47	17.030	83.836	3.363	1.00	31.28	6
ATOM	375	CG	PRO	47	15.610	83.400	3.441	1.00	32.54	6
ATOM	376	C	PRO	47	17.888	83.762	5.706	1.00	28.32	6
ATOM	377	O	PRO	47	18.733	84.670	5.747	1.00	29.24	8
ATOM	378	N	THR	48	17.092	83.513	6.730	1.00	26.79	7
ATOM	379	CA	THR	48	17.135	84.298	7.971	1.00	26.97	6
ATOM	380	CB	THR	48	15.698	84.323	8.532	1.00	31.78	6
ATOM	381	OG1	THR	48	15.241	82.958	8.520	1.00	31.45	8
ATOM	382	CG2	THR	48	14.798	85.150	7.605	1.00	27.40	6
ATOM	383	C	THR	48	18.075	83.757	9.021	1.00	26.31	6
ATOM	384	O	THR	48	18.206	84.334	10.113	1.00	28.00	8
ATOM	385	N	HIS	49	18.698	82.602	8.772	1.00	24.44	7
ATOM	386	CA	HIS	49	19.612	81.942	9.707	1.00	24.19	6
ATOM	387	CB	HIS	49	18.953	80.610	10.174	1.00	25.11	6
ATOM	388	CG	HIS	49	17.722	80.939	10.961	1.00	22.20	6
ATOM	389	CD2	HIS	49	16.430	81.109	10.624	1.00	27.86	6
ATOM	390	ND1	HIS	49	17.809	81.225	12.306	1.00	29.80	7
ATOM	391	CE1	HIS	49	16.595	81.526	12.762	1.00	28.91	6
ATOM	392	NE2	HIS	49	15.748	81.474	11.761	1.00	25.35	7
ATOM	393	C	HIS	49	20.923	81.588	9.041	1.00	23.08	6
ATOM	394	O	HIS	49	20.942	80.805	8.075	1.00	20.57	8
ATOM	395	N	THR	50	22.038	82.162	9.497	1.00	25.11	7
ATOM	396	CA	THR	50	23.321	81.974	8.807	1.00	22.98	6
ATOM	397	CB	THR	50	23.732	83.314	8.137	1.00	23.01	6
ATOM	398	OG1	THR	50	23.843	84.252	9.231	1.00	18.66	8
ATOM	399	CG2	THR	50	22.757	83.817	7.101	1.00	19.07	6
ATOM	400	C	THR	50	24.460	81.645	9.766	1.00	24.61	6
ATOM	401	O	THR	50	25.640	81.772	9.393	1.00	26.17	8
ATOM	402	N	GLN	51	24.126	81.274	10.985	1.00	24.52	7
ATOM	403	CA	GLN	51	25.132	80.979	11.995	1.00	27.31	6
ATOM	404	CB	GLN	51	24.708	81.505	13.378	1.00	28.63	6
ATOM	405	CG	GLN	51	24.438	83.014	13.378	1.00	32.81	6
ATOM	406	CD	GLN	51	25.677	83.810	12.995	1.00	38.53	6
ATOM	407	OE1	GLN	51	26.606	83.952	13.802	1.00	37.60	8
ATOM	408	NE2	GLN	51	25.724	84.331	11.765	1.00	32.79	7
ATOM	409	C	GLN	51	25.411	79.487	12.101	1.00	26.69	6
ATOM	410	O	GLN	51	24.626	78.636	11.689	1.00	26.27	8
ATOM	411	N	PRO	52	26.510	79.138	12.769	1.00	25.16	7
ATOM	412	CD	PRO	52	27.553	80.091	13.270	1.00	24.54	6
ATOM	413	CA	PRO	52	26.917	77.763	12.974	1.00	25.24	6
ATOM	414	CB	PRO	52	28.264	77.888	13.708	1.00	26.09	6
ATOM	415	CG	PRO	52	28.804	79.217	13.257	1.00	23.35	6
ATOM	416	C	PRO	52	25.900	76.915	13.722	1.00	25.71	6
ATOM	417	O	PRO	52	25.877	75.687	13.542	1.00	21.61	8
ATOM	418	N	SER	53	25.044	77.497	14.556	1.00	24.05	7
ATOM	419	CA	SER	53	23.991	76.773	15.239	1.00	25.63	6
ATOM	420	CB	SER	53	24.105	76.711	16.758	1.00	31.86	6
ATOM	421	OG	SER	53	24.778	75.495	17.094	1.00	42.46	8

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ATOM    422  C   SER  53      22.681  77.460  14.854  1.00 24.85      6
ATOM    423  O   SER  53      22.681  78.673  14.691  1.00 23.68      8
ATOM    424  N   TYR  54      21.658  76.689  14.614  1.00 24.52      7
ATOM    425  CA  TYR  54      20.333  77.167  14.212  1.00 26.29      6
ATOM    426  CB  TYR  54      20.050  76.886  12.729  1.00 26.92      6
ATOM    427  CG  TYR  54      18.612  76.998  12.274  1.00 30.15      6
ATOM    428  CD1 TYR  54      17.719  77.905  12.825  1.00 29.18      6
ATOM    429  CE1 TYR  54      16.407  78.006  12.409  1.00 31.26      6
ATOM    430  CD2 TYR  54      18.104  76.166  11.280  1.00 31.67      6
ATOM    431  CE2 TYR  54      16.796  76.217  10.855  1.00 31.66      6
ATOM    432  CZ  TYR  54      15.950  77.151  11.429  1.00 33.63      6
ATOM    433  OH  TYR  54      14.624  77.219  11.038  1.00 34.53      8
ATOM    434  C   TYR  54      19.378  76.450  15.167  1.00 24.84      6
ATOM    435  O   TYR  54      19.300  75.210  15.129  1.00 22.53      8
ATOM    436  N   ARG  55      18.773  77.181  16.070  1.00 21.66      7
ATOM    437  CA  ARG  55      17.864  76.650  17.070  1.00 23.60      6
ATOM    438  CB  ARG  55      18.242  77.157  18.480  1.00 25.95      6
ATOM    439  CG  ARG  55      17.478  76.340  19.551  1.00 23.98      6
ATOM    440  CD  ARG  55      17.651  76.982  20.918  1.00 35.38      6
ATOM    441  NE  ARG  55      16.821  76.365  21.956  1.00 27.47      7
ATOM    442  CZ  ARG  55      17.278  75.530  22.879  1.00 33.10      6
ATOM    443  NH1 ARG  55      18.570  75.209  22.904  1.00 30.00      7
ATOM    444  NH2 ARG  55      16.418  75.049  23.778  1.00 32.66      7
ATOM    445  C   ARG  55      16.434  77.103  16.802  1.00 27.49      6
ATOM    446  O   ARG  55      16.275  78.312  16.569  1.00 22.62      8
ATOM    447  N   PHE  56      15.455  76.174  16.781  1.00 23.78      7
ATOM    448  CA  PHE  56      14.092  76.636  16.510  1.00 21.92      6
ATOM    449  CB  PHE  56      13.716  76.495  15.036  1.00 25.99      6
ATOM    450  CG  PHE  56      13.819  75.131  14.386  1.00 20.84      6
ATOM    451  CD1 PHE  56      15.019  74.653  13.897  1.00 21.33      6
ATOM    452  CD2 PHE  56      12.705  74.319  14.264  1.00 20.31      6
ATOM    453  CE1 PHE  56      15.103  73.415  13.283  1.00 21.52      6
ATOM    454  CE2 PHE  56      12.768  73.077  13.680  1.00 18.36      6
ATOM    455  CZ  PHE  56      13.973  72.616  13.159  1.00 18.38      6
ATOM    456  C   PHE  56      13.095  75.862  17.372  1.00 23.93      6
ATOM    457  O   PHE  56      13.454  74.833  17.921  1.00 22.42      8
ATOM    458  N   LYS  57      11.865  76.340  17.423  1.00 22.46      7
ATOM    459  CA  LYS  57      10.735  75.659  18.054  1.00 24.34      6
ATOM    460  CBA LYS  57       9.892  76.620  18.881  0.50 28.51      6
ATOM    461  CBB LYS  57       9.822  76.727  18.669  0.50 22.87      6
ATOM    462  CGA LYS  57      10.656  77.298  20.010  0.50 33.64      6
ATOM    463  CGB LYS  57       8.769  76.208  19.632  0.50 24.29      6
ATOM    464  CDA LYS  57      11.436  76.342  20.892  0.50 40.75      6
ATOM    465  CDB LYS  57       8.631  77.186  20.798  0.50 26.90      6
ATOM    466  CEA LYS  57      12.612  76.990  21.603  0.50 43.07      6
ATOM    467  CEB LYS  57       9.138  76.604  22.092  0.50 29.79      6
ATOM    468  NZA LYS  57      12.703  76.630  23.044  0.50 51.71      7
ATOM    469  NZB LYS  57       8.050  76.265  23.060  0.50 36.22      7
ATOM    470  C   LYS  57       9.950  74.923  16.969  1.00 21.30      6
ATOM    471  O   LYS  57       9.436  75.551  16.052  1.00 19.46      8
ATOM    472  N   ALA  58       9.928  73.588  16.945  1.00 18.23      7
ATOM    473  CA  ALA  58       9.341  72.864  15.821  1.00 15.74      6
ATOM    474  CB  ALA  58       9.612  71.361  16.094  1.00  9.09      6
ATOM    475  C   ALA  58       7.841  73.034  15.614  1.00 20.26      6
ATOM    476  O   ALA  58       7.067  73.064  16.574  1.00 18.04      8
ATOM    477  N   ASN  59       7.392  73.126  14.367  1.00 18.31      7
ATOM    478  CA  ASN  59       5.986  73.071  14.019  1.00 23.04      6
ATOM    479  CB  ASN  59       5.222  74.301  13.612  1.00 32.39      6
ATOM    480  CG  ASN  59       5.880  75.643  13.665  1.00 38.26      6
ATOM    481  OD1 ASN  59       5.855  76.279  14.716  1.00 42.50      8
ATOM    482  ND2 ASN  59       6.426  76.066  12.529  1.00 43.39      7
ATOM    483  C   ASN  59       5.825  72.052  12.867  1.00 24.07      6
ATOM    484  O   ASN  59       6.794  71.476  12.365  1.00 21.25      8
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ATOM    485  N   ASN   60       4.582  71.833  12.484  1.00 24.40   7
ATOM    486  CA  ASN   60       4.192  70.823  11.519  1.00 31.47   6
ATOM    487  CB  ASN   60       2.680  70.893  11.234  1.00 31.46   6
ATOM    488  CGA ASN   60       2.272  69.776  10.274  0.50 31.26   6
ATOM    489  CGB ASN   60       2.221  72.272  10.814  0.50 35.72   6
ATOM    490  OD1 ASN   60       2.337  68.582  10.597  0.50 22.52   8
ATOM    491  OD1 ASN   60       2.985  73.240  10.768  0.50 33.04   8
ATOM    492  ND2 ASN   60       1.863  70.175   9.070  0.50 26.04   7
ATOM    493  ND2 ASN   60       0.932  72.391  10.483  0.50 39.47   7
ATOM    494  C   ASN   60       5.006  70.943  10.234  1.00 29.05   6
ATOM    495  O   ASN   60       5.645  69.986   9.780  1.00 32.27   8
ATOM    496  N   ASN   61       5.098  72.153   9.710  1.00 30.20   7
ATOM    497  CAA ASN   61       5.863  72.487   8.529  0.50 28.68   6
ATOM    498  CAB ASN   61       5.857  72.367   8.477  0.50 29.13   6
ATOM    499  CBA ASN   61       5.564  73.955   8.150  0.50 26.19   6
ATOM    500  CBB ASN   61       5.403  73.671   7.806  0.50 30.25   6
ATOM    501  CGA ASN   61       4.101  74.127   7.792  0.50 27.01   6
ATOM    502  CGB ASN   61       5.608  74.882   8.678  0.50 32.36   6
ATOM    503  OD1 ASN   61       3.502  75.125   8.184  0.50 28.58   8
ATOM    504  OD1 ASN   61       6.383  74.820   9.637  0.50 33.38   8
ATOM    505  ND2 ASN   61       3.526  73.172   7.071  0.50 34.39   7
ATOM    506  ND2 ASN   61       4.927  75.991   8.384  0.50 33.52   7
ATOM    507  C   ASN   61       7.371  72.336   8.628  1.00 25.33   6
ATOM    508  O   ASN   61       8.030  72.535   7.617  1.00 21.46   8
ATOM    509  N   ASP   62       7.932  71.978   9.767  1.00 24.89   7
ATOM    510  CA  ASP   62       9.373  71.842   9.941  1.00 21.37   6
ATOM    511  CB  ASP   62       9.749  72.284  11.372  1.00 16.89   6
ATOM    512  CG  ASP   62       9.620  73.782  11.538  1.00 26.20   6
ATOM    513  OD1 ASP   62       9.824  74.549  10.570  1.00 20.81   8
ATOM    514  OD2 ASP   62       9.276  74.273  12.611  1.00 17.90   8
ATOM    515  C   ASP   62       9.887  70.439   9.645  1.00 18.69   6
ATOM    516  O   ASP   62      11.104  70.209   9.654  1.00 20.50   8
ATOM    517  N   SER   63       9.011  69.477   9.394  1.00 19.81   7
ATOM    518  CA  SER   63       9.434  68.132   9.015  1.00 19.84   6
ATOM    519  CB  SER   63       8.268  67.164   8.811  1.00 22.04   6
ATOM    520  OG  SER   63       7.506  67.018  10.009  1.00 20.02   8
ATOM    521  C   SER   63      10.196  68.204   7.682  1.00 23.89   6
ATOM    522  O   SER   63      10.015  69.160   6.911  1.00 17.92   8
ATOM    523  N   GLY   64      11.056  67.195   7.467  1.00 19.50   7
ATOM    524  CA  GLY   64      11.769  67.191   6.190  1.00 22.23   6
ATOM    525  C   GLY   64      13.272  66.965   6.340  1.00 19.81   6
ATOM    526  O   GLY   64      13.744  66.564   7.399  1.00 18.93   8
ATOM    527  N   GLU   65      13.980  67.226   5.238  1.00 17.01   7
ATOM    528  CA  GLU   65      15.428  67.013   5.269  1.00 21.39   6
ATOM    529  CBA GLU   65      15.934  66.562   3.901  0.50 13.64   6
ATOM    530  CBB GLU   65      15.933  66.446   3.947  0.50 23.81   6
ATOM    531  CGA GLU   65      16.507  65.158   3.813  0.50 15.71   6
ATOM    532  CGB GLU   65      15.409  65.059   3.602  0.50 32.15   6
ATOM    533  CDA GLU   65      16.656  64.679   2.381  0.50 22.33   6
ATOM    534  CDB GLU   65      15.898  63.965   4.520  0.50 40.56   6
ATOM    535  OE1 GLU   65      17.428  65.263   1.586  0.50 22.70   8
ATOM    536  OE1 GLU   65      16.578  64.271   5.525  0.50 41.83   8
ATOM    537  OE2 GLU   65      15.991  63.686   2.014  0.50 31.04   8
ATOM    538  OE2 GLU   65      15.624  62.758   4.278  0.50 46.02   8
ATOM    539  C   GLU   65      16.155  68.324   5.593  1.00 21.56   6
ATOM    540  O   GLU   65      15.756  69.325   5.007  1.00 21.41   8
ATOM    541  N   TYR   66      17.172  68.268   6.458  1.00 21.38   7
ATOM    542  CA  TYR   66      17.966  69.483   6.691  1.00 17.91   6
ATOM    543  CB  TYR   66      17.954  69.984   8.129  1.00 17.39   6
ATOM    544  CG  TYR   66      16.620  70.563   8.534  1.00 18.08   6
ATOM    545  CD1 TYR   66      15.605  69.686   8.957  1.00 18.56   6
ATOM    546  CE1 TYR   66      14.369  70.147   9.323  1.00 16.48   6
ATOM    547  CD2 TYR   66      16.348  71.921   8.485  1.00 18.23   6
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ATOM	548	CE2	TYR	66	15.102	72.382	8.867	1.00	18.37	6
ATOM	549	CZ	TYR	66	14.124	71.516	9.279	1.00	18.98	6
ATOM	550	OH	TYR	66	12.872	71.939	9.624	1.00	14.14	8
ATOM	551	C	TYR	66	19.379	69.231	6.212	1.00	13.96	6
ATOM	552	O	TYR	66	19.923	68.135	6.353	1.00	18.14	8
ATOM	553	N	THR	67	20.010	70.228	5.568	1.00	17.95	7
ATOM	554	CA	THR	67	21.374	70.138	5.117	1.00	18.06	6
ATOM	555	CB	THR	67	21.514	69.844	3.599	1.00	22.52	6
ATOM	556	OG1	THR	67	20.669	70.737	2.835	1.00	16.85	8
ATOM	557	CG2	THR	67	21.215	68.371	3.309	1.00	17.46	6
ATOM	558	C	THR	67	22.044	71.508	5.384	1.00	18.76	6
ATOM	559	O	THR	67	21.354	72.515	5.567	1.00	17.47	8
ATOM	560	N	CYS	68	23.354	71.540	5.389	1.00	19.74	7
ATOM	561	CA	CYS	68	24.099	72.792	5.597	1.00	23.50	6
ATOM	562	C	CYS	68	25.382	72.759	4.758	1.00	23.12	6
ATOM	563	O	CYS	68	25.791	71.712	4.279	1.00	25.07	8
ATOM	564	CB	CYS	68	24.434	73.082	7.055	1.00	18.70	6
ATOM	565	SG	CYS	68	25.675	71.985	7.798	1.00	23.45	16
ATOM	566	N	GLN	69	25.975	73.920	4.534	1.00	24.47	7
ATOM	567	CA	GLN	69	27.174	74.121	3.770	1.00	24.99	6
ATOM	568	CB	GLN	69	26.909	74.344	2.264	1.00	27.22	6
ATOM	569	CG	GLN	69	28.155	74.057	1.419	1.00	25.14	6
ATOM	570	CD	GLN	69	27.857	74.022	-0.065	1.00	32.43	6
ATOM	571	OE1	GLN	69	26.710	74.166	-0.487	1.00	31.34	8
ATOM	572	NE2	GLN	69	28.896	73.814	-0.874	1.00	27.89	7
ATOM	573	C	GLN	69	27.901	75.383	4.266	1.00	27.60	6
ATOM	574	O	GLN	69	27.289	76.352	4.734	1.00	25.37	8
ATOM	575	N	THR	70	29.206	75.318	4.115	1.00	28.73	7
ATOM	576	CA	THR	70	30.059	76.465	4.439	1.00	32.10	6
ATOM	577	CB	THR	70	31.125	76.153	5.491	1.00	33.36	6
ATOM	578	OG1	THR	70	30.619	75.311	6.553	1.00	45.26	8
ATOM	579	CG2	THR	70	31.453	77.444	6.210	1.00	50.20	6
ATOM	580	C	THR	70	30.737	76.890	3.138	1.00	32.77	6
ATOM	581	O	THR	70	30.680	76.170	2.130	1.00	30.75	8
ATOM	582	N	GLY	71	31.472	78.007	3.175	1.00	31.83	7
ATOM	583	CA	GLY	71	32.224	78.469	2.033	1.00	27.97	6
ATOM	584	C	GLY	71	33.376	77.544	1.690	1.00	29.94	6
ATOM	585	O	GLY	71	33.938	77.668	0.596	1.00	32.37	8
ATOM	586	N	GLN	72	33.842	76.707	2.594	1.00	24.86	7
ATOM	587	CA	GLN	72	34.920	75.779	2.457	1.00	27.14	6
ATOM	588	CB	GLN	72	35.868	75.974	3.667	1.00	27.31	6
ATOM	589	CG	GLN	72	36.291	77.451	3.825	1.00	30.51	6
ATOM	590	CD	GLN	72	36.961	77.995	2.567	1.00	30.53	6
ATOM	591	OE1	GLN	72	37.981	77.441	2.161	1.00	39.95	8
ATOM	592	NE2	GLN	72	36.402	79.014	1.944	1.00	31.16	7
ATOM	593	C	GLN	72	34.530	74.305	2.441	1.00	29.60	6
ATOM	594	O	GLN	72	35.419	73.442	2.578	1.00	30.82	8
ATOM	595	N	THR	73	33.248	73.954	2.380	1.00	25.83	7
ATOM	596	CA	THR	73	32.861	72.549	2.426	1.00	26.62	6
ATOM	597	CB	THR	73	32.278	72.135	3.792	1.00	26.64	6
ATOM	598	OG1	THR	73	31.226	73.051	4.138	1.00	27.54	8
ATOM	599	CG2	THR	73	33.313	72.124	4.897	1.00	28.16	6
ATOM	600	C	THR	73	31.824	72.223	1.371	1.00	26.31	6
ATOM	601	O	THR	73	31.210	73.110	0.776	1.00	28.00	8
ATOM	602	N	SER	74	31.685	70.927	1.074	1.00	28.62	7
ATOM	603	CA	SER	74	30.592	70.605	0.112	1.00	29.44	6
ATOM	604	CB	SER	74	31.020	69.470	-0.803	1.00	30.45	6
ATOM	605	OG	SER	74	31.407	68.399	0.034	1.00	41.05	8
ATOM	606	C	SER	74	29.366	70.395	0.992	1.00	26.65	6
ATOM	607	O	SER	74	29.461	70.438	2.228	1.00	25.57	8
ATOM	608	N	LEU	75	28.178	70.281	0.442	1.00	29.47	7
ATOM	609	CA	LEU	75	26.915	70.163	1.158	1.00	25.10	6
ATOM	610	CB	LEU	75	25.749	70.141	0.159	1.00	27.83	6

ATOM	611	CG	LEU	75	24.348	70.136	0.777	1.00	27.24	6
ATOM	612	CD1	LEU	75	23.888	71.554	1.094	1.00	24.13	6
ATOM	613	CD2	LEU	75	23.349	69.420	-0.133	1.00	24.42	6
ATOM	614	C	LEU	75	26.884	68.973	2.087	1.00	25.84	6
ATOM	615	O	LEU	75	27.300	67.858	1.711	1.00	22.45	8
ATOM	616	N	SER	76	26.376	69.158	3.315	1.00	23.31	7
ATOM	617	CA	SER	76	26.357	68.009	4.219	1.00	25.20	6
ATOM	618	CB	SER	76	25.916	68.402	5.644	1.00	26.64	6
ATOM	619	OG	SER	76	24.514	68.663	5.624	1.00	29.43	8
ATOM	620	C	SER	76	25.346	66.955	3.738	1.00	23.00	6
ATOM	621	O	SER	76	24.431	67.304	3.006	1.00	21.02	8
ATOM	622	N	ASP	77	25.506	65.739	4.241	1.00	22.24	7
ATOM	623	CA	ASP	77	24.493	64.712	4.094	1.00	26.03	6
ATOM	624	CB	ASP	77	24.907	63.362	4.683	1.00	20.27	6
ATOM	625	CG	ASP	77	25.914	62.676	3.758	1.00	25.73	6
ATOM	626	OD1	ASP	77	25.821	62.893	2.541	1.00	23.79	8
ATOM	627	OD2	ASP	77	26.769	61.954	4.292	1.00	28.92	8
ATOM	628	C	ASP	77	23.267	65.191	4.929	1.00	25.85	6
ATOM	629	O	ASP	77	23.423	65.904	5.914	1.00	24.00	8
ATOM	630	N	PRO	78	22.098	64.758	4.492	1.00	27.37	7
ATOM	631	CD	PRO	78	21.917	63.917	3.275	1.00	26.84	6
ATOM	632	CA	PRO	78	20.849	65.130	5.098	1.00	25.42	6
ATOM	633	CB	PRO	78	19.795	64.592	4.141	1.00	28.38	6
ATOM	634	CG	PRO	78	20.453	63.586	3.272	1.00	27.24	6
ATOM	635	C	PRO	78	20.575	64.556	6.479	1.00	25.28	6
ATOM	636	O	PRO	78	21.006	63.459	6.820	1.00	23.68	8
ATOM	637	N	VAL	79	19.833	65.331	7.265	1.00	20.24	7
ATOM	638	CA	VAL	79	19.287	64.861	8.535	1.00	18.86	6
ATOM	639	CB	VAL	79	19.850	65.516	9.783	1.00	19.49	6
ATOM	640	CG1	VAL	79	19.042	65.239	11.046	1.00	22.25	6
ATOM	641	CG2	VAL	79	21.275	64.959	10.036	1.00	21.95	6
ATOM	642	C	VAL	79	17.777	65.046	8.399	1.00	19.76	6
ATOM	643	O	VAL	79	17.283	66.130	8.076	1.00	22.34	8
ATOM	644	N	HIS	80	17.024	63.955	8.566	1.00	19.43	7
ATOM	645	CA	HIS	80	15.584	63.976	8.387	1.00	18.11	6
ATOM	646	CB	HIS	80	15.130	62.621	7.784	1.00	26.87	6
ATOM	647	CG	HIS	80	13.712	62.754	7.293	1.00	31.93	6
ATOM	648	CD2	HIS	80	13.194	62.983	6.069	1.00	27.05	6
ATOM	649	ND1	HIS	80	12.637	62.697	8.176	1.00	34.35	7
ATOM	650	CE1	HIS	80	11.525	62.847	7.480	1.00	34.80	6
ATOM	651	NE2	HIS	80	11.831	63.016	6.210	1.00	34.81	7
ATOM	652	C	HIS	80	14.865	64.187	9.718	1.00	23.08	6
ATOM	653	O	HIS	80	15.096	63.496	10.709	1.00	23.37	8
ATOM	654	N	LEU	81	13.953	65.138	9.747	1.00	19.18	7
ATOM	655	CA	LEU	81	13.244	65.478	10.957	1.00	21.58	6
ATOM	656	CB	LEU	81	13.567	66.937	11.331	1.00	18.20	6
ATOM	657	CG	LEU	81	12.847	67.381	12.605	1.00	18.21	6
ATOM	658	CD1	LEU	81	13.496	66.708	13.812	1.00	19.39	6
ATOM	659	CD2	LEU	81	12.865	68.912	12.696	1.00	14.76	6
ATOM	660	C	LEU	81	11.747	65.255	10.783	1.00	19.36	6
ATOM	661	O	LEU	81	11.225	65.543	9.720	1.00	20.96	8
ATOM	662	N	THR	82	11.100	64.689	11.793	1.00	19.61	7
ATOM	663	CA	THR	82	9.642	64.463	11.680	1.00	18.45	6
ATOM	664	CB	THR	82	9.316	62.950	11.683	1.00	25.98	6
ATOM	665	OG1	THR	82	9.907	62.351	10.527	1.00	18.89	8
ATOM	666	CG2	THR	82	7.795	62.775	11.666	1.00	24.98	6
ATOM	667	C	THR	82	8.971	65.100	12.891	1.00	16.02	6
ATOM	668	O	THR	82	9.248	64.735	14.035	1.00	14.79	8
ATOM	669	N	VAL	83	8.075	66.045	12.647	1.00	16.23	7
ATOM	670	CA	VAL	83	7.451	66.758	13.753	1.00	16.97	6
ATOM	671	CB	VAL	83	7.559	68.282	13.530	1.00	12.81	6
ATOM	672	CG1	VAL	83	7.051	68.972	14.799	1.00	15.92	6
ATOM	673	CG2	VAL	83	8.986	68.760	13.246	1.00	11.78	6

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ATOM    674  C   VAL  83       6.020  66.264  13.892  1.00 19.97   6
ATOM    675  O   VAL  83       5.261  66.329  12.918  1.00 18.57   8
ATOM    676  N   LEU  84       5.686  65.756  15.075  1.00 16.89   7
ATOM    677  CA  LEU  84       4.372  65.188  15.312  1.00 19.89   6
ATOM    678  CB  LEU  84       4.621  63.786  15.890  1.00 18.15   6
ATOM    679  CG  LEU  84       5.491  62.863  15.021  1.00 23.40   6
ATOM    680  CD1 LEU  84       5.927  61.690  15.868  1.00 25.20   6
ATOM    681  CD2 LEU  84       4.752  62.396  13.758  1.00 20.46   6
ATOM    682  C   LEU  84       3.487  66.016  16.228  1.00 22.29   6
ATOM    683  O   LEU  84       3.928  66.891  16.975  1.00 23.90   8
ATOM    684  N   PHE  85       2.189  65.750  16.218  1.00 21.03   7
ATOM    685  CA  PHE  85       1.254  66.444  17.111  1.00 22.92   6
ATOM    686  CB  PHE  85       0.399  67.431  16.333  1.00 21.76   6
ATOM    687  CG  PHE  85      -0.440  68.350  17.184  1.00 27.90   6
ATOM    688  CD1 PHE  85       0.103  69.013  18.266  1.00 28.30   6
ATOM    689  CD2 PHE  85      -1.787  68.533  16.899  1.00 26.61   6
ATOM    690  CE1 PHE  85      -0.664  69.874  19.040  1.00 29.65   6
ATOM    691  CE2 PHE  85      -2.559  69.386  17.668  1.00 25.61   6
ATOM    692  CZ  PHE  85      -1.996  70.047  18.733  1.00 28.75   6
ATOM    693  C   PHE  85       0.455  65.399  17.852  1.00 21.99   6
ATOM    694  O   PHE  85      -0.642  65.000  17.426  1.00 22.11   8
ATOM    695  N   GLU  86       1.023  64.883  18.938  1.00 20.76   7
ATOM    696  CA  GLU  86       0.421  63.762  19.702  1.00 18.04   6
ATOM    697  CB  GLU  86       1.142  62.463  19.210  1.00 20.84   6
ATOM    698  CG  GLU  86       0.711  61.815  17.911  1.00 25.05   6
ATOM    699  CD  GLU  86       1.647  61.048  17.019  1.00 41.96   6
ATOM    700  OE1 GLU  86       2.719  60.507  17.416  1.00 46.14   8
ATOM    701  OE2 GLU  86       1.429  60.893  15.765  1.00 40.77   8
ATOM    702  C   GLU  86       0.694  64.026  21.176  1.00 18.46   6
ATOM    703  O   GLU  86       1.588  64.839  21.462  1.00 16.67   8
ATOM    704  N   TRP  87       0.031  63.408  22.156  1.00 12.60   7
ATOM    705  CA  TRP  87       0.328  63.631  23.553  1.00 13.01   6
ATOM    706  CB  TRP  87      -0.808  63.056  24.411  1.00 18.40   6
ATOM    707  CG  TRP  87      -1.922  64.023  24.687  1.00 21.87   6
ATOM    708  CD2 TRP  87      -1.812  65.176  25.521  1.00 21.14   6
ATOM    709  CE2 TRP  87      -3.065  65.805  25.526  1.00 24.31   6
ATOM    710  CE3 TRP  87      -0.767  65.738  26.255  1.00 24.84   6
ATOM    711  CD1 TRP  87      -3.216  63.985  24.231  1.00 22.52   6
ATOM    712  NE1 TRP  87      -3.907  65.069  24.734  1.00 22.53   7
ATOM    713  CZ2 TRP  87      -3.303  66.966  26.266  1.00 29.91   6
ATOM    714  CZ3 TRP  87      -0.998  66.890  26.987  1.00 29.83   6
ATOM    715  CH2 TRP  87      -2.254  67.499  26.970  1.00 29.09   6
ATOM    716  C   TRP  87       1.599  62.967  24.068  1.00 15.44   6
ATOM    717  O   TRP  87       2.178  63.499  25.018  1.00 16.68   8
ATOM    718  N   LEU  88       2.036  61.873  23.447  1.00 14.44   7
ATOM    719  CA  LEU  88       3.153  61.051  23.861  1.00 20.07   6
ATOM    720  CB  LEU  88       2.596  59.942  24.783  1.00 17.49   6
ATOM    721  CG  LEU  88       3.608  59.303  25.769  1.00 16.97   6
ATOM    722  CD1 LEU  88       4.062  60.299  26.830  1.00 17.38   6
ATOM    723  CD2 LEU  88       2.987  58.053  26.370  1.00 13.93   6
ATOM    724  C   LEU  88       3.889  60.399  22.677  1.00 20.44   6
ATOM    725  O   LEU  88       3.255  59.857  21.752  1.00 19.65   8
ATOM    726  N   VAL  89       5.218  60.517  22.620  1.00 18.11   7
ATOM    727  CA  VAL  89       5.998  59.926  21.542  1.00 14.66   6
ATOM    728  CBA VAL  89       6.686  61.029  20.699  0.50  7.52   6
ATOM    729  CBB VAL  89       6.677  60.941  20.604  0.50 13.86   6
ATOM    730  CG1 VAL  89       7.573  61.890  21.597  0.50  7.13   6
ATOM    731  CG1 VAL  89       5.696  61.409  19.543  0.50 15.87   6
ATOM    732  CG2 VAL  89       7.501  60.486  19.531  0.50  3.91   6
ATOM    733  CG2 VAL  89       7.264  62.090  21.402  0.50 18.65   6
ATOM    734  C   VAL  89       7.109  59.032  22.107  1.00 15.71   6
ATOM    735  O   VAL  89       7.689  59.262  23.179  1.00 14.52   8
ATOM    736  N   LEU  90       7.379  57.958  21.386  1.00 15.13   7
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ATOM	737	CA	LEU	90	8.520	57.133	21.703	1.00	13.72	6
ATOM	738	CB	LEU	90	8.287	55.625	21.488	1.00	17.87	6
ATOM	739	CG	LEU	90	9.650	54.978	21.873	1.00	26.07	6
ATOM	740	CD1	LEU	90	9.479	54.066	23.036	1.00	30.57	6
ATOM	741	CD2	LEU	90	10.373	54.463	20.662	1.00	25.07	6
ATOM	742	C	LEU	90	9.657	57.674	20.803	1.00	17.58	6
ATOM	743	O	LEU	90	9.611	57.517	19.576	1.00	14.46	8
ATOM	744	N	GLN	91	10.673	58.298	21.412	1.00	15.83	7
ATOM	745	CA	GLN	91	11.745	58.908	20.623	1.00	17.70	6
ATOM	746	CB	GLN	91	12.252	60.238	21.264	1.00	15.03	6
ATOM	747	CG	GLN	91	11.105	61.231	21.472	1.00	12.81	6
ATOM	748	CD	GLN	91	11.564	62.636	21.868	1.00	15.79	6
ATOM	749	OE1	GLN	91	12.023	62.823	22.988	1.00	14.61	8
ATOM	750	NE2	GLN	91	11.409	63.610	20.984	1.00	16.27	7
ATOM	751	C	GLN	91	12.971	58.042	20.375	1.00	17.71	6
ATOM	752	O	GLN	91	13.370	57.296	21.268	1.00	19.37	8
ATOM	753	N	THR	92	13.607	58.207	19.218	1.00	14.05	7
ATOM	754	CA	THR	92	14.853	57.488	18.934	1.00	19.01	6
ATOM	755	CB	THR	92	14.562	56.225	18.089	1.00	16.40	6
ATOM	756	OG1	THR	92	15.769	55.485	17.905	1.00	18.39	8
ATOM	757	CG2	THR	92	13.943	56.499	16.720	1.00	10.45	6
ATOM	758	C	THR	92	15.803	58.416	18.173	1.00	18.96	6
ATOM	759	O	THR	92	15.339	59.272	17.409	1.00	21.88	8
ATOM	760	N	PRO	93	17.095	58.153	18.251	1.00	18.78	7
ATOM	761	CD	PRO	93	17.747	57.169	19.135	1.00	22.16	6
ATOM	762	CA	PRO	93	18.090	58.929	17.530	1.00	24.37	6
ATOM	763	CB	PRO	93	19.352	58.803	18.371	1.00	24.99	6
ATOM	764	CG	PRO	93	19.162	57.609	19.235	1.00	26.05	6
ATOM	765	C	PRO	93	18.285	58.362	16.138	1.00	27.02	6
ATOM	766	O	PRO	93	18.852	59.019	15.248	1.00	27.04	8
ATOM	767	N	HIS	94	17.978	57.069	15.960	1.00	24.22	7
ATOM	768	CA	HIS	94	18.114	56.421	14.651	1.00	25.72	6
ATOM	769	CB	HIS	94	19.444	55.690	14.439	1.00	20.09	6
ATOM	770	CG	HIS	94	20.639	56.587	14.595	1.00	21.67	6
ATOM	771	CD2	HIS	94	21.161	57.530	13.798	1.00	23.30	6
ATOM	772	ND1	HIS	94	21.380	56.595	15.754	1.00	27.49	7
ATOM	773	CE1	HIS	94	22.338	57.501	15.657	1.00	26.54	6
ATOM	774	NE2	HIS	94	22.211	58.078	14.482	1.00	32.10	7
ATOM	775	C	HIS	94	17.038	55.350	14.453	1.00	24.49	6
ATOM	776	O	HIS	94	16.481	54.838	15.429	1.00	24.01	8
ATOM	777	N	LEU	95	16.847	54.929	13.214	1.00	21.96	7
ATOM	778	CA	LEU	95	15.900	53.847	12.960	1.00	26.06	6
ATOM	779	CB	LEU	95	15.014	54.118	11.741	1.00	26.66	6
ATOM	780	CG	LEU	95	13.994	55.248	11.899	1.00	35.19	6
ATOM	781	CD1	LEU	95	13.449	55.601	10.525	1.00	25.66	6
ATOM	782	CD2	LEU	95	12.895	54.908	12.900	1.00	24.13	6
ATOM	783	C	LEU	95	16.626	52.525	12.720	1.00	26.30	6
ATOM	784	O	LEU	95	15.999	51.464	12.790	1.00	26.83	8
ATOM	785	N	GLU	96	17.884	52.601	12.326	1.00	25.44	7
ATOM	786	CA	GLU	96	18.688	51.413	12.087	1.00	28.55	6
ATOM	787	CB	GLU	96	19.062	51.144	10.634	1.00	28.97	6
ATOM	788	CG	GLU	96	17.977	51.334	9.605	1.00	34.46	6
ATOM	789	CD	GLU	96	18.414	51.109	8.168	1.00	42.07	6
ATOM	790	OE1	GLU	96	19.560	50.709	7.882	1.00	41.53	8
ATOM	791	OE2	GLU	96	17.592	51.343	7.256	1.00	45.31	8
ATOM	792	C	GLU	96	19.995	51.575	12.885	1.00	32.22	6
ATOM	793	O	GLU	96	20.525	52.686	13.015	1.00	31.68	8
ATOM	794	N	PHE	97	20.396	50.487	13.538	1.00	29.38	7
ATOM	795	CA	PHE	97	21.622	50.447	14.315	1.00	31.45	6
ATOM	796	CB	PHE	97	21.388	50.351	15.832	1.00	29.88	6
ATOM	797	CG	PHE	97	20.640	51.497	16.464	1.00	28.91	6
ATOM	798	CD1	PHE	97	19.256	51.580	16.386	1.00	19.88	6
ATOM	799	CD2	PHE	97	21.311	52.503	17.131	1.00	27.06	6

ATOM	800	CE1	PHE	97	18.557	52.624	16.971	1.00	23.29	6
ATOM	801	CE2	PHE	97	20.622	53.545	17.719	1.00	23.27	6
ATOM	802	CZ	PHE	97	19.244	53.626	17.636	1.00	25.87	6
ATOM	803	C	PHE	97	22.455	49.233	13.861	1.00	31.11	6
ATOM	804	O	PHE	97	22.007	48.334	13.164	1.00	32.31	8
ATOM	805	N	GLN	98	23.726	49.213	14.219	1.00	34.14	7
ATOM	806	CA	GLN	98	24.636	48.131	13.939	1.00	33.31	6
ATOM	807	CB	GLN	98	26.042	48.629	13.635	1.00	38.15	6
ATOM	808	CG	GLN	98	26.207	49.422	12.356	1.00	45.65	6
ATOM	809	CD	GLN	98	25.763	48.712	11.097	1.00	49.99	6
ATOM	810	OE1	GLN	98	26.455	47.828	10.589	1.00	52.58	8
ATOM	811	NE2	GLN	98	24.603	49.088	10.563	1.00	53.06	7
ATOM	812	C	GLN	98	24.662	47.218	15.172	1.00	31.48	6
ATOM	813	O	GLN	98	24.459	47.664	16.300	1.00	27.98	8
ATOM	814	N	GLU	99	24.990	45.955	14.920	1.00	30.75	7
ATOM	815	CA	GLU	99	25.112	44.978	16.009	1.00	32.56	6
ATOM	816	CB	GLU	99	25.598	43.653	15.420	1.00	36.89	6
ATOM	817	CG	GLU	99	25.204	42.392	16.141	1.00	44.86	6
ATOM	818	CD	GLU	99	24.771	41.288	15.184	1.00	48.45	6
ATOM	819	OE1	GLU	99	23.802	40.573	15.521	1.00	53.90	8
ATOM	820	OE2	GLU	99	25.400	41.148	14.118	1.00	50.56	8
ATOM	821	C	GLU	99	26.130	45.551	16.980	1.00	31.14	6
ATOM	822	O	GLU	99	27.136	46.048	16.475	1.00	31.94	8
ATOM	823	N	GLY	100	25.919	45.571	18.275	1.00	32.19	7
ATOM	824	CA	GLY	100	26.874	46.123	19.217	1.00	31.10	6
ATOM	825	C	GLY	100	26.643	47.541	19.696	1.00	31.51	6
ATOM	826	O	GLY	100	27.082	47.931	20.789	1.00	30.30	8
ATOM	827	N	GLU	101	25.948	48.369	18.921	1.00	34.41	7
ATOM	828	CA	GLU	101	25.675	49.746	19.297	1.00	34.07	6
ATOM	829	CB	GLU	101	24.949	50.452	18.148	1.00	37.86	6
ATOM	830	CG	GLU	101	25.777	50.676	16.889	1.00	48.38	6
ATOM	831	CD	GLU	101	24.984	51.520	15.895	1.00	49.17	6
ATOM	832	OE1	GLU	101	24.251	52.408	16.385	1.00	58.51	8
ATOM	833	OE2	GLU	101	25.046	51.333	14.669	1.00	48.56	8
ATOM	834	C	GLU	101	24.783	49.848	20.537	1.00	33.06	6
ATOM	835	O	GLU	101	24.086	48.888	20.886	1.00	27.70	8
ATOM	836	N	THR	102	24.747	51.057	21.107	1.00	31.92	7
ATOM	837	CA	THR	102	23.870	51.303	22.248	1.00	32.85	6
ATOM	838	CB	THR	102	24.508	52.161	23.341	1.00	35.75	6
ATOM	839	OG1	THR	102	25.546	51.438	24.021	1.00	36.79	8
ATOM	840	CG2	THR	102	23.532	52.577	24.441	1.00	35.82	6
ATOM	841	C	THR	102	22.582	51.944	21.721	1.00	32.54	6
ATOM	842	O	THR	102	22.650	52.932	20.991	1.00	30.03	8
ATOM	843	N	ILE	103	21.431	51.329	22.014	1.00	28.53	7
ATOM	844	CA	ILE	103	20.162	51.939	21.590	1.00	25.40	6
ATOM	845	CB	ILE	103	19.131	50.873	21.163	1.00	26.58	6
ATOM	846	CG2	ILE	103	17.776	51.496	20.828	1.00	25.47	6
ATOM	847	CG1	ILE	103	19.669	50.080	19.971	1.00	21.79	6
ATOM	848	CD1	ILE	103	18.739	49.003	19.438	1.00	19.73	6
ATOM	849	C	ILE	103	19.624	52.753	22.767	1.00	25.27	6
ATOM	850	O	ILE	103	19.439	52.181	23.853	1.00	23.06	8
ATOM	851	N	MET	104	19.443	54.059	22.591	1.00	24.90	7
ATOM	852	CA	MET	104	18.893	54.913	23.639	1.00	21.55	6
ATOM	853	CB	MET	104	19.797	56.097	23.963	1.00	33.48	6
ATOM	854	CG	MET	104	20.810	55.826	25.101	1.00	29.68	6
ATOM	855	SD	MET	104	21.940	57.256	25.242	1.00	46.02	16
ATOM	856	CE	MET	104	22.667	57.216	23.589	1.00	31.10	6
ATOM	857	C	MET	104	17.528	55.456	23.215	1.00	21.27	6
ATOM	858	O	MET	104	17.374	55.991	22.106	1.00	22.96	8
ATOM	859	N	LEU	105	16.503	55.242	24.027	1.00	20.55	7
ATOM	860	CA	LEU	105	15.134	55.668	23.728	1.00	22.33	6
ATOM	861	CB	LEU	105	14.192	54.450	23.550	1.00	14.66	6
ATOM	862	CG	LEU	105	14.713	53.389	22.561	1.00	18.89	6

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ATOM    863  CD1 LEU   105      13.796  52.178  22.489  1.00 19.44    6
ATOM    864  CD2 LEU   105      14.882  54.056  21.186  1.00 18.70    6
ATOM    865  C   LEU   105      14.567  56.559  24.817  1.00 20.15    6
ATOM    866  O   LEU   105      15.050  56.506  25.950  1.00 18.39    8
ATOM    867  N   ARG   106      13.523  57.324  24.483  1.00 18.25    7
ATOM    868  CA  ARG   106      12.912  58.174  25.516  1.00 17.87    6
ATOM    869  CB  ARG   106      13.607  59.553  25.508  1.00 14.96    6
ATOM    870  CG  ARG   106      12.834  60.597  26.290  1.00 16.79    6
ATOM    871  CD  ARG   106      13.699  61.788  26.757  1.00 19.51    6
ATOM    872  NE  ARG   106      13.334  62.927  26.025  1.00 23.46    7
ATOM    873  CZ  ARG   106      12.990  64.174  26.065  1.00 24.43    6
ATOM    874  NH1 ARG   106      12.923  64.892  27.176  1.00 25.93    7
ATOM    875  NH2 ARG   106      12.697  64.795  24.936  1.00 18.72    7
ATOM    876  C   ARG   106      11.422  58.321  25.304  1.00 18.56    6
ATOM    877  O   ARG   106      10.998  58.479  24.142  1.00 20.43    8
ATOM    878  N   CYS   107      10.642  58.246  26.378  1.00 15.23    7
ATOM    879  CA  CYS   107       9.189  58.419  26.292  1.00 14.89    6
ATOM    880  C   CYS   107       8.934  59.891  26.583  1.00 15.28    6
ATOM    881  O   CYS   107       9.296  60.294  27.690  1.00 15.96    8
ATOM    882  CB  CYS   107       8.438  57.565  27.322  1.00 14.55    6
ATOM    883  SG  CYS   107       6.691  57.368  27.013  1.00 13.91   16
ATOM    884  N   HIS   108       8.446  60.653  25.604  1.00 15.07    7
ATOM    885  CA  HIS   108       8.334  62.103  25.811  1.00 11.91    6
ATOM    886  CB  HIS   108       9.190  62.757  24.708  1.00 16.03    6
ATOM    887  CG  HIS   108       9.119  64.240  24.572  1.00 16.94    6
ATOM    888  CD2 HIS   108       9.068  65.023  23.462  1.00 17.64    6
ATOM    889  ND1 HIS   108       9.103  65.108  25.657  1.00 17.41    7
ATOM    890  CE1 HIS   108       9.034  66.350  25.215  1.00 17.37    6
ATOM    891  NE2 HIS   108       9.021  66.333  23.895  1.00 20.00    7
ATOM    892  C   HIS   108       6.925  62.647  25.733  1.00 11.83    6
ATOM    893  O   HIS   108       6.224  62.361  24.762  1.00 12.54    8
ATOM    894  N   SER   109       6.515  63.502  26.654  1.00 13.70    7
ATOM    895  CA  SER   109       5.160  64.091  26.605  1.00 11.70    6
ATOM    896  CB  SER   109       4.583  64.134  28.041  1.00 13.47    6
ATOM    897  OG  SER   109       5.609  64.845  28.800  1.00 16.16    8
ATOM    898  C   SER   109       5.190  65.459  25.970  1.00 14.21    6
ATOM    899  O   SER   109       6.180  66.232  25.903  1.00 14.63    8
ATOM    900  N   TRP   110       4.047  65.804  25.381  1.00 16.58    7
ATOM    901  CA  TRP   110       3.860  67.102  24.708  1.00 16.04    6
ATOM    902  CB  TRP   110       2.480  67.158  24.072  1.00 18.73    6
ATOM    903  CG  TRP   110       2.187  68.425  23.306  1.00 21.24    6
ATOM    904  CD2 TRP   110       1.135  69.339  23.589  1.00 20.70    6
ATOM    905  CE2 TRP   110       1.193  70.361  22.616  1.00 25.92    6
ATOM    906  CE3 TRP   110       0.112  69.372  24.549  1.00 24.16    6
ATOM    907  CD1 TRP   110       2.827  68.908  22.214  1.00 22.22    6
ATOM    908  NE1 TRP   110       2.233  70.069  21.765  1.00 22.81    7
ATOM    909  CZ2 TRP   110       0.276  71.404  22.568  1.00 24.18    6
ATOM    910  CZ3 TRP   110      -0.781  70.434  24.509  1.00 30.15    6
ATOM    911  CH2 TRP   110      -0.698  71.433  23.526  1.00 31.04    6
ATOM    912  C   TRP   110       4.082  68.245  25.681  1.00 14.44    6
ATOM    913  O   TRP   110       3.665  68.219  26.852  1.00 17.08    8
ATOM    914  N   LYS   111       4.928  69.199  25.294  1.00 19.42    7
ATOM    915  CA  LYS   111       5.347  70.325  26.115  1.00 19.40    6
ATOM    916  CB  LYS   111       4.131  71.241  26.418  1.00 21.00    6
ATOM    917  CG  LYS   111       3.583  71.904  25.155  1.00 24.94    6
ATOM    918  CD  LYS   111       2.124  72.287  25.337  1.00 34.17    6
ATOM    919  CE  LYS   111       1.952  73.719  25.781  1.00 37.49    6
ATOM    920  NZ  LYS   111       2.783  74.668  24.987  1.00 52.66    7
ATOM    921  C   LYS   111       5.940  69.921  27.450  1.00 20.33    6
ATOM    922  O   LYS   111       5.905  70.694  28.419  1.00 16.80    8
ATOM    923  N   ASP   112       6.444  68.695  27.602  1.00 18.28    7
ATOM    924  CA  ASP   112       6.989  68.233  28.861  1.00 20.31    6
ATOM    925  CB  ASP   112       8.242  69.088  29.191  1.00 24.52    6
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ATOM	926	CG	ASP	112	9.306	68.737	28.155	1.00	31.39	6
ATOM	927	OD1	ASP	112	9.700	67.545	28.119	1.00	39.68	8
ATOM	928	OD2	ASP	112	9.719	69.588	27.360	1.00	35.00	8
ATOM	929	C	ASP	112	6.015	68.203	30.018	1.00	23.40	6
ATOM	930	O	ASP	112	6.426	68.475	31.148	1.00	23.42	8
ATOM	931	N	LYS	113	4.731	67.889	29.785	1.00	23.10	7
ATOM	932	CA	LYS	113	3.792	67.721	30.891	1.00	22.35	6
ATOM	933	CB	LYS	113	2.352	67.432	30.437	1.00	21.68	6
ATOM	934	CG	LYS	113	1.758	68.611	29.659	1.00	27.09	6
ATOM	935	CD	LYS	113	0.232	68.574	29.608	1.00	28.34	6
ATOM	936	CE	LYS	113	-0.269	69.780	28.816	1.00	32.92	6
ATOM	937	NZ	LYS	113	-0.196	71.075	29.554	1.00	33.55	7
ATOM	938	C	LYS	113	4.352	66.597	31.748	1.00	19.86	6
ATOM	939	O	LYS	113	4.890	65.603	31.264	1.00	21.45	8
ATOM	940	N	PRO	114	4.288	66.761	33.066	1.00	20.08	7
ATOM	941	CD	PRO	114	3.701	67.928	33.768	1.00	16.95	6
ATOM	942	CA	PRO	114	4.923	65.801	33.957	1.00	17.00	6
ATOM	943	CB	PRO	114	4.548	66.292	35.342	1.00	19.22	6
ATOM	944	CG	PRO	114	4.169	67.733	35.176	1.00	21.34	6
ATOM	945	C	PRO	114	4.451	64.405	33.636	1.00	16.83	6
ATOM	946	O	PRO	114	3.237	64.125	33.512	1.00	16.01	8
ATOM	947	N	LEU	115	5.414	63.483	33.560	1.00	15.95	7
ATOM	948	CA	LEU	115	5.081	62.104	33.215	1.00	17.10	6
ATOM	949	CB	LEU	115	5.769	61.879	31.856	1.00	16.83	6
ATOM	950	CG	LEU	115	5.790	60.498	31.231	1.00	21.64	6
ATOM	951	CD1	LEU	115	4.399	60.132	30.733	1.00	19.24	6
ATOM	952	CD2	LEU	115	6.777	60.486	30.043	1.00	19.80	6
ATOM	953	C	LEU	115	5.606	61.116	34.226	1.00	21.13	6
ATOM	954	O	LEU	115	6.788	61.200	34.569	1.00	18.84	8
ATOM	955	N	VAL	116	4.839	60.105	34.630	1.00	20.51	7
ATOM	956	CA	VAL	116	5.314	59.073	35.545	1.00	20.40	6
ATOM	957	CB	VAL	116	4.787	59.277	36.971	1.00	18.72	6
ATOM	958	CG1	VAL	116	5.313	60.547	37.644	1.00	22.67	6
ATOM	959	CG2	VAL	116	3.257	59.328	36.998	1.00	22.12	6
ATOM	960	C	VAL	116	4.807	57.703	35.073	1.00	19.73	6
ATOM	961	O	VAL	116	3.910	57.682	34.223	1.00	20.76	8
ATOM	962	N	LYS	117	5.268	56.615	35.693	1.00	17.34	7
ATOM	963	CA	LYS	117	4.760	55.290	35.381	1.00	20.33	6
ATOM	964	CB	LYS	117	3.271	55.182	35.802	1.00	21.74	6
ATOM	965	CG	LYS	117	3.115	54.927	37.301	1.00	24.43	6
ATOM	966	CD	LYS	117	1.793	55.445	37.832	1.00	32.69	6
ATOM	967	CE	LYS	117	0.798	54.314	38.056	1.00	40.27	6
ATOM	968	NZ	LYS	117	-0.568	54.865	38.266	1.00	44.06	7
ATOM	969	C	LYS	117	4.956	54.936	33.914	1.00	18.58	6
ATOM	970	O	LYS	117	4.026	54.535	33.234	1.00	24.35	8
ATOM	971	N	VAL	118	6.181	55.063	33.417	1.00	20.45	7
ATOM	972	CA	VAL	118	6.542	54.798	32.039	1.00	19.15	6
ATOM	973	CB	VAL	118	7.756	55.643	31.607	1.00	12.17	6
ATOM	974	CG1	VAL	118	8.199	55.396	30.176	1.00	18.94	6
ATOM	975	CG2	VAL	118	7.408	57.129	31.794	1.00	16.75	6
ATOM	976	C	VAL	118	6.868	53.330	31.797	1.00	18.58	6
ATOM	977	O	VAL	118	7.606	52.717	32.564	1.00	17.16	8
ATOM	978	N	THR	119	6.307	52.803	30.711	1.00	15.94	7
ATOM	979	CA	THR	119	6.527	51.425	30.335	1.00	16.50	6
ATOM	980	CB	THR	119	5.291	50.523	30.367	1.00	19.59	6
ATOM	981	OG1	THR	119	4.770	50.410	31.693	1.00	23.11	8
ATOM	982	CG2	THR	119	5.695	49.123	29.872	1.00	24.83	6
ATOM	983	C	THR	119	7.053	51.424	28.881	1.00	17.81	6
ATOM	984	O	THR	119	6.436	52.130	28.095	1.00	14.36	8
ATOM	985	N	PHE	120	8.121	50.679	28.643	1.00	14.86	7
ATOM	986	CA	PHE	120	8.616	50.608	27.259	1.00	13.85	6
ATOM	987	CB	PHE	120	10.122	50.797	27.240	1.00	15.51	6
ATOM	988	CG	PHE	120	10.553	52.230	27.463	1.00	13.38	6

ATOM	989	CD1	PHE	120	10.748	52.701	28.750	1.00	20.15	6
ATOM	990	CD2	PHE	120	10.792	53.051	26.381	1.00	20.08	6
ATOM	991	CE1	PHE	120	11.186	54.002	28.953	1.00	17.14	6
ATOM	992	CE2	PHE	120	11.230	54.367	26.578	1.00	22.12	6
ATOM	993	CZ	PHE	120	11.423	54.818	27.867	1.00	17.10	6
ATOM	994	C	PHE	120	8.279	49.216	26.721	1.00	17.13	6
ATOM	995	O	PHE	120	8.640	48.221	27.407	1.00	14.78	8
ATOM	996	N	PHE	121	7.626	49.166	25.575	1.00	16.20	7
ATOM	997	CA	PHE	121	7.277	47.868	25.011	1.00	18.83	6
ATOM	998	CB	PHE	121	5.799	47.821	24.616	1.00	13.50	6
ATOM	999	CG	PHE	121	4.768	48.052	25.656	1.00	18.60	6
ATOM	1000	CD1	PHE	121	4.368	49.339	26.017	1.00	17.37	6
ATOM	1001	CD2	PHE	121	4.208	46.961	26.334	1.00	18.44	6
ATOM	1002	CE1	PHE	121	3.409	49.524	27.006	1.00	19.78	6
ATOM	1003	CE2	PHE	121	3.260	47.173	27.313	1.00	22.69	6
ATOM	1004	CZ	PHE	121	2.843	48.445	27.660	1.00	15.74	6
ATOM	1005	C	PHE	121	8.074	47.539	23.749	1.00	18.44	6
ATOM	1006	O	PHE	121	8.351	48.454	22.987	1.00	15.63	8
ATOM	1007	N	GLN	122	8.333	46.253	23.480	1.00	19.35	7
ATOM	1008	CA	GLN	122	8.959	45.880	22.203	1.00	19.90	6
ATOM	1009	CB	GLN	122	10.396	45.379	22.317	1.00	16.32	6
ATOM	1010	CG	GLN	122	10.784	44.583	21.065	1.00	18.39	6
ATOM	1011	CD	GLN	122	12.050	43.764	21.247	1.00	21.98	6
ATOM	1012	OE1	GLN	122	12.423	43.461	22.374	1.00	19.18	8
ATOM	1013	NE2	GLN	122	12.700	43.396	20.153	1.00	24.51	7
ATOM	1014	C	GLN	122	8.067	44.774	21.609	1.00	15.34	6
ATOM	1015	O	GLN	122	7.789	43.832	22.321	1.00	17.30	8
ATOM	1016	N	ASN	123	7.474	44.931	20.439	1.00	18.98	7
ATOM	1017	CA	ASN	123	6.542	43.975	19.859	1.00	22.95	6
ATOM	1018	CB	ASN	123	7.241	42.708	19.332	1.00	19.57	6
ATOM	1019	CG	ASN	123	8.228	43.130	18.244	1.00	26.31	6
ATOM	1020	OD1	ASN	123	8.013	44.053	17.441	1.00	19.76	8
ATOM	1021	ND2	ASN	123	9.375	42.463	18.213	1.00	28.57	7
ATOM	1022	C	ASN	123	5.397	43.643	20.803	1.00	21.02	6
ATOM	1023	O	ASN	123	4.911	42.525	20.918	1.00	19.19	8
ATOM	1024	N	GLY	124	4.951	44.632	21.579	1.00	19.77	7
ATOM	1025	CA	GLY	124	3.852	44.516	22.495	1.00	16.41	6
ATOM	1026	C	GLY	124	4.159	43.885	23.844	1.00	14.85	6
ATOM	1027	O	GLY	124	3.210	43.658	24.611	1.00	15.05	8
ATOM	1028	N	LYS	125	5.405	43.610	24.133	1.00	13.81	7
ATOM	1029	CA	LYS	125	5.830	42.997	25.379	1.00	21.18	6
ATOM	1030	CB	LYS	125	6.700	41.738	25.247	1.00	14.85	6
ATOM	1031	CG	LYS	125	6.934	41.032	26.559	1.00	16.28	6
ATOM	1032	CD	LYS	125	7.406	39.587	26.281	1.00	22.51	6
ATOM	1033	CE	LYS	125	7.925	38.989	27.587	1.00	30.62	6
ATOM	1034	NZ	LYS	125	8.822	37.818	27.330	1.00	36.72	7
ATOM	1035	C	LYS	125	6.725	44.014	26.121	1.00	18.20	6
ATOM	1036	O	LYS	125	7.648	44.525	25.509	1.00	19.98	8
ATOM	1037	N	SER	126	6.385	44.216	27.393	1.00	17.62	7
ATOM	1038	CA	SER	126	7.107	45.241	28.155	1.00	20.03	6
ATOM	1039	CB	SER	126	6.355	45.459	29.485	1.00	23.22	6
ATOM	1040	OG	SER	126	7.317	45.773	30.466	1.00	38.12	8
ATOM	1041	C	SER	126	8.541	44.823	28.389	1.00	17.85	6
ATOM	1042	O	SER	126	8.842	43.657	28.647	1.00	21.31	8
ATOM	1043	N	GLN	127	9.490	45.718	28.254	1.00	17.16	7
ATOM	1044	CA	GLN	127	10.898	45.515	28.408	1.00	17.45	6
ATOM	1045	CB	GLN	127	11.723	46.073	27.225	1.00	20.82	6
ATOM	1046	CG	GLN	127	11.352	45.419	25.897	1.00	18.56	6
ATOM	1047	CD	GLN	127	11.497	43.912	25.927	1.00	24.44	6
ATOM	1048	OE1	GLN	127	12.606	43.416	26.116	1.00	31.62	8
ATOM	1049	NE2	GLN	127	10.436	43.130	25.773	1.00	19.15	7
ATOM	1050	C	GLN	127	11.386	46.251	29.661	1.00	20.94	6
ATOM	1051	O	GLN	127	12.439	45.929	30.179	1.00	18.25	8

ATOM	1052	N	LYS	128	10.643	47.285	30.032	1.00	21.18	7
ATOM	1053	CA	LYS	128	11.070	48.048	31.216	1.00	23.10	6
ATOM	1054	CB	LYS	128	12.177	49.034	30.842	1.00	21.83	6
ATOM	1055	CG	LYS	128	12.683	49.882	32.013	1.00	24.67	6
ATOM	1056	CD	LYS	128	13.739	50.905	31.589	1.00	18.23	6
ATOM	1057	CE	LYS	128	14.048	51.746	32.870	1.00	27.02	6
ATOM	1058	NZ	LYS	128	15.081	52.794	32.574	1.00	24.24	7
ATOM	1059	C	LYS	128	9.884	48.844	31.754	1.00	24.93	6
ATOM	1060	O	LYS	128	9.193	49.481	30.960	1.00	20.79	8
ATOM	1061	N	PHE	129	9.678	48.822	33.062	1.00	21.39	7
ATOM	1062	CA	PHE	129	8.708	49.695	33.695	1.00	24.45	6
ATOM	1063	CB	PHE	129	7.610	48.926	34.458	1.00	25.50	6
ATOM	1064	CG	PHE	129	6.772	49.837	35.327	1.00	25.51	6
ATOM	1065	CD1	PHE	129	5.799	50.630	34.762	1.00	19.40	6
ATOM	1066	CD2	PHE	129	7.002	49.928	36.700	1.00	29.98	6
ATOM	1067	CE1	PHE	129	5.026	51.491	35.535	1.00	25.00	6
ATOM	1068	CE2	PHE	129	6.249	50.788	37.491	1.00	28.84	6
ATOM	1069	CZ	PHE	129	5.262	51.574	36.902	1.00	32.29	6
ATOM	1070	C	PHE	129	9.480	50.577	34.687	1.00	27.88	6
ATOM	1071	O	PHE	129	10.388	50.049	35.359	1.00	30.99	8
ATOM	1072	N	SER	130	9.134	51.846	34.853	1.00	26.67	7
ATOM	1073	CA	SER	130	9.779	52.641	35.917	1.00	24.98	6
ATOM	1074	CB	SER	130	11.025	53.344	35.422	1.00	21.29	6
ATOM	1075	OG	SER	130	11.271	54.465	36.250	1.00	25.72	8
ATOM	1076	C	SER	130	8.777	53.667	36.434	1.00	24.39	6
ATOM	1077	O	SER	130	8.123	54.285	35.576	1.00	24.91	8
ATOM	1078	N	HIS	131	8.668	53.889	37.730	1.00	22.12	7
ATOM	1079	CA	HIS	131	7.710	54.901	38.204	1.00	23.65	6
ATOM	1080	CB	HIS	131	7.604	54.918	39.737	1.00	28.35	6
ATOM	1081	CG	HIS	131	6.859	53.706	40.197	1.00	23.57	6
ATOM	1082	CD2	HIS	131	7.307	52.509	40.642	1.00	18.55	6
ATOM	1083	ND1	HIS	131	5.478	53.666	40.170	1.00	26.69	7
ATOM	1084	CE1	HIS	131	5.095	52.478	40.617	1.00	16.65	6
ATOM	1085	NE2	HIS	131	6.173	51.764	40.890	1.00	23.94	7
ATOM	1086	C	HIS	131	8.108	56.314	37.814	1.00	23.89	6
ATOM	1087	O	HIS	131	7.261	57.205	37.712	1.00	26.21	8
ATOM	1088	N	LEU	132	9.426	56.548	37.689	1.00	21.77	7
ATOM	1089	CA	LEU	132	9.886	57.900	37.480	1.00	20.70	6
ATOM	1090	CB	LEU	132	10.630	58.361	38.760	1.00	30.28	6
ATOM	1091	CG	LEU	132	10.022	58.084	40.148	1.00	26.56	6
ATOM	1092	CD1	LEU	132	11.073	58.316	41.229	1.00	29.07	6
ATOM	1093	CD2	LEU	132	8.814	58.980	40.435	1.00	24.99	6
ATOM	1094	C	LEU	132	10.762	58.144	36.279	1.00	22.94	6
ATOM	1095	O	LEU	132	10.794	59.326	35.900	1.00	22.01	8
ATOM	1096	N	ASP	133	11.541	57.181	35.778	1.00	21.75	7
ATOM	1097	CA	ASP	133	12.469	57.401	34.679	1.00	24.62	6
ATOM	1098	CB	ASP	133	13.560	56.327	34.854	1.00	29.71	6
ATOM	1099	CG	ASP	133	14.734	56.321	33.915	1.00	32.90	6
ATOM	1100	OD1	ASP	133	14.837	57.254	33.083	1.00	32.91	8
ATOM	1101	OD2	ASP	133	15.597	55.394	34.000	1.00	36.01	8
ATOM	1102	C	ASP	133	11.843	57.230	33.296	1.00	25.88	6
ATOM	1103	O	ASP	133	11.419	56.136	32.940	1.00	24.36	8
ATOM	1104	N	PRO	134	11.857	58.261	32.460	1.00	24.65	7
ATOM	1105	CD	PRO	134	12.347	59.620	32.778	1.00	22.97	6
ATOM	1106	CA	PRO	134	11.293	58.185	31.112	1.00	24.00	6
ATOM	1107	CB	PRO	134	10.889	59.662	30.870	1.00	24.02	6
ATOM	1108	CG	PRO	134	11.987	60.433	31.544	1.00	23.04	6
ATOM	1109	C	PRO	134	12.256	57.764	30.017	1.00	22.11	6
ATOM	1110	O	PRO	134	11.970	57.930	28.824	1.00	19.00	8
ATOM	1111	N	THR	135	13.420	57.212	30.350	1.00	21.43	7
ATOM	1112	CA	THR	135	14.424	56.805	29.401	1.00	24.98	6
ATOM	1113	CB	THR	135	15.748	57.584	29.593	1.00	27.24	6
ATOM	1114	OG1	THR	135	16.331	57.065	30.796	1.00	24.99	8

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ATOM   1115  CG2 THR   135      15.461  59.069  29.706  1.00 26.07   6
ATOM   1116  C   THR   135      14.747  55.312  29.451  1.00 23.58   6
ATOM   1117  O   THR   135      14.445  54.629  30.423  1.00 26.14   8
ATOM   1118  N   PHE   136      15.267  54.790  28.347  1.00 20.63   7
ATOM   1119  CA  PHE   136      15.549  53.391  28.150  1.00 20.10   6
ATOM   1120  CB  PHE   136      14.343  52.706  27.523  1.00 25.47   6
ATOM   1121  CG  PHE   136      14.408  51.250  27.170  1.00 25.61   6
ATOM   1122  CD1 PHE   136      14.528  50.270  28.121  1.00 27.00   6
ATOM   1123  CD2 PHE   136      14.332  50.847  25.841  1.00 27.45   6
ATOM   1124  CE1 PHE   136      14.571  48.929  27.787  1.00 32.62   6
ATOM   1125  CE2 PHE   136      14.385  49.516  25.490  1.00 28.46   6
ATOM   1126  CZ  PHE   136      14.493  48.549  26.463  1.00 30.41   6
ATOM   1127  C   PHE   136      16.796  53.197  27.297  1.00 24.00   6
ATOM   1128  O   PHE   136      16.952  53.801  26.230  1.00 24.50   8
ATOM   1129  N   SER   137      17.665  52.294  27.730  1.00 21.97   7
ATOM   1130  CA  SER   137      18.914  52.010  27.050  1.00 26.52   6
ATOM   1131  CB  SER   137      20.120  52.418  27.908  1.00 30.03   6
ATOM   1132  OG  SER   137      20.769  53.559  27.412  1.00 44.19   8
ATOM   1133  C   SER   137      19.128  50.507  26.840  1.00 27.38   6
ATOM   1134  O   SER   137      18.911  49.694  27.721  1.00 27.33   8
ATOM   1135  N   ILE   138      19.654  50.164  25.686  1.00 25.86   7
ATOM   1136  CA  ILE   138      20.004  48.806  25.343  1.00 29.46   6
ATOM   1137  CB  ILE   138      19.189  48.176  24.193  1.00 33.38   6
ATOM   1138  CG2 ILE   138      19.669  46.748  23.941  1.00 27.23   6
ATOM   1139  CG1 ILE   138      17.679  48.197  24.472  1.00 30.55   6
ATOM   1140  CD1 ILE   138      16.817  48.155  23.223  1.00 29.53   6
ATOM   1141  C   ILE   138      21.477  48.875  24.926  1.00 29.88   6
ATOM   1142  O   ILE   138      21.768  49.377  23.849  1.00 27.99   8
ATOM   1143  N   PRO   139      22.345  48.476  25.837  1.00 31.71   7
ATOM   1144  CD  PRO   139      22.018  47.938  27.184  1.00 32.73   6
ATOM   1145  CA  PRO   139      23.776  48.398  25.598  1.00 33.85   6
ATOM   1146  CB  PRO   139      24.380  48.213  26.983  1.00 36.13   6
ATOM   1147  CG  PRO   139      23.248  48.384  27.950  1.00 34.99   6
ATOM   1148  C   PRO   139      24.030  47.160  24.741  1.00 35.63   6
ATOM   1149  O   PRO   139      23.324  46.160  24.888  1.00 38.22   8
ATOM   1150  N   GLN   140      24.974  47.208  23.827  1.00 36.97   7
ATOM   1151  CA  GLN   140      25.288  46.110  22.935  1.00 35.17   6
ATOM   1152  CB  GLN   140      26.223  45.124  23.631  1.00 43.87   6
ATOM   1153  CG  GLN   140      27.518  45.802  24.088  1.00 49.77   6
ATOM   1154  CD  GLN   140      27.883  45.282  25.468  1.00 56.21   6
ATOM   1155  OE1 GLN   140      28.145  44.084  25.593  1.00 57.44   8
ATOM   1156  NE2 GLN   140      27.883  46.161  26.468  1.00 57.25   7
ATOM   1157  C   GLN   140      24.060  45.418  22.362  1.00 34.61   6
ATOM   1158  O   GLN   140      23.677  44.284  22.693  1.00 33.34   8
ATOM   1159  N   ALA   141      23.473  46.111  21.391  1.00 29.80   7
ATOM   1160  CA  ALA   141      22.287  45.634  20.694  1.00 30.02   6
ATOM   1161  CB  ALA   141      21.778  46.745  19.774  1.00 27.89   6
ATOM   1162  C   ALA   141      22.561  44.400  19.832  1.00 29.52   6
ATOM   1163  O   ALA   141      23.650  44.270  19.263  1.00 29.60   8
ATOM   1164  N   ASN   142      21.528  43.582  19.665  1.00 30.60   7
ATOM   1165  CA  ASN   142      21.642  42.435  18.738  1.00 31.55   6
ATOM   1166  CB  ASN   142      21.985  41.139  19.453  1.00 30.39   6
ATOM   1167  CG  ASN   142      21.012  40.749  20.534  1.00 31.63   6
ATOM   1168  OD1 ASN   142      19.838  40.423  20.268  1.00 27.57   8
ATOM   1169  ND2 ASN   142      21.479  40.739  21.781  1.00 33.23   7
ATOM   1170  C   ASN   142      20.357  42.321  17.936  1.00 32.33   6
ATOM   1171  O   ASN   142      19.453  43.168  18.122  1.00 29.09   8
ATOM   1172  N   HIS   143      20.223  41.257  17.134  1.00 29.40   7
ATOM   1173  CA  HIS   143      19.075  41.086  16.266  1.00 28.82   6
ATOM   1174  CB  HIS   143      19.262  39.895  15.272  1.00 24.51   6
ATOM   1175  CG  HIS   143      20.360  40.234  14.295  1.00 31.72   6
ATOM   1176  CD2 HIS   143      20.704  41.420  13.740  1.00 33.88   6
ATOM   1177  ND1 HIS   143      21.278  39.328  13.822  1.00 32.86   7
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ATOM	1178	CE1	HIS	143	22.117	39.927	13.008	1.00	31.84	6
ATOM	1179	NE2	HIS	143	21.794	41.202	12.941	1.00	31.48	7
ATOM	1180	C	HIS	143	17.747	40.857	16.976	1.00	26.62	6
ATOM	1181	O	HIS	143	16.696	41.098	16.366	1.00	25.96	8
ATOM	1182	N	SER	144	17.812	40.412	18.221	1.00	20.85	7
ATOM	1183	CA	SER	144	16.557	40.128	18.941	1.00	24.82	6
ATOM	1184	CB	SER	144	16.839	38.979	19.915	1.00	30.28	6
ATOM	1185	OG	SER	144	17.739	39.389	20.930	1.00	39.11	8
ATOM	1186	C	SER	144	15.976	41.423	19.474	1.00	24.89	6
ATOM	1187	O	SER	144	14.775	41.518	19.755	1.00	25.22	8
ATOM	1188	N	HIS	145	16.746	42.522	19.463	1.00	20.33	7
ATOM	1189	CA	HIS	145	16.306	43.861	19.811	1.00	19.38	6
ATOM	1190	CB	HIS	145	17.474	44.762	20.302	1.00	19.40	6
ATOM	1191	CG	HIS	145	18.145	44.212	21.534	1.00	18.37	6
ATOM	1192	CD2	HIS	145	17.620	43.886	22.744	1.00	18.22	6
ATOM	1193	ND1	HIS	145	19.493	43.965	21.627	1.00	23.55	7
ATOM	1194	CE1	HIS	145	19.768	43.492	22.829	1.00	26.33	6
ATOM	1195	NE2	HIS	145	18.643	43.412	23.525	1.00	21.05	7
ATOM	1196	C	HIS	145	15.589	44.553	18.657	1.00	22.05	6
ATOM	1197	O	HIS	145	15.013	45.636	18.848	1.00	21.86	8
ATOM	1198	N	SER	146	15.569	43.997	17.440	1.00	20.66	7
ATOM	1199	CA	SER	146	14.833	44.649	16.363	1.00	19.96	6
ATOM	1200	CB	SER	146	15.075	44.009	14.986	1.00	20.48	6
ATOM	1201	OG	SER	146	16.442	44.154	14.613	1.00	25.61	8
ATOM	1202	C	SER	146	13.339	44.596	16.656	1.00	20.51	6
ATOM	1203	O	SER	146	12.915	43.614	17.287	1.00	22.06	8
ATOM	1204	N	GLY	147	12.556	45.578	16.197	1.00	16.70	7
ATOM	1205	CA	GLY	147	11.123	45.383	16.411	1.00	20.49	6
ATOM	1206	C	GLY	147	10.385	46.714	16.555	1.00	22.63	6
ATOM	1207	O	GLY	147	10.982	47.762	16.332	1.00	16.09	8
ATOM	1208	N	ASP	148	9.111	46.560	16.951	1.00	20.62	7
ATOM	1209	CA	ASP	148	8.324	47.777	17.121	1.00	21.57	6
ATOM	1210	CB	ASP	148	6.882	47.579	16.674	1.00	28.99	6
ATOM	1211	CG	ASP	148	6.819	47.144	15.219	1.00	41.07	6
ATOM	1212	OD1	ASP	148	7.849	47.338	14.540	1.00	39.21	8
ATOM	1213	OD2	ASP	148	5.763	46.620	14.808	1.00	39.40	8
ATOM	1214	C	ASP	148	8.315	48.214	18.590	1.00	20.72	6
ATOM	1215	O	ASP	148	7.817	47.469	19.447	1.00	20.27	8
ATOM	1216	N	TYR	149	8.822	49.440	18.798	1.00	16.97	7
ATOM	1217	CA	TYR	149	8.811	49.966	20.164	1.00	18.60	6
ATOM	1218	CB	TYR	149	10.193	50.587	20.472	1.00	16.94	6
ATOM	1219	CG	TYR	149	11.272	49.534	20.606	1.00	18.45	6
ATOM	1220	CD1	TYR	149	11.901	48.928	19.528	1.00	19.27	6
ATOM	1221	CE1	TYR	149	12.877	47.948	19.737	1.00	20.18	6
ATOM	1222	CD2	TYR	149	11.672	49.162	21.879	1.00	18.36	6
ATOM	1223	CE2	TYR	149	12.636	48.216	22.116	1.00	15.60	6
ATOM	1224	CZ	TYR	149	13.238	47.606	21.027	1.00	18.77	6
ATOM	1225	OH	TYR	149	14.211	46.660	21.253	1.00	18.41	8
ATOM	1226	C	TYR	149	7.767	51.061	20.355	1.00	15.78	6
ATOM	1227	O	TYR	149	7.539	51.859	19.450	1.00	15.86	8
ATOM	1228	N	HIS	150	7.196	51.126	21.559	1.00	15.01	7
ATOM	1229	CA	HIS	150	6.247	52.171	21.925	1.00	12.99	6
ATOM	1230	CB	HIS	150	4.849	51.980	21.372	1.00	11.96	6
ATOM	1231	CG	HIS	150	3.942	51.032	22.117	1.00	17.71	6
ATOM	1232	CD2	HIS	150	2.944	51.295	23.004	1.00	16.09	6
ATOM	1233	ND1	HIS	150	3.988	49.660	21.971	1.00	11.60	7
ATOM	1234	CE1	HIS	150	3.058	49.103	22.716	1.00	16.95	6
ATOM	1235	NE2	HIS	150	2.407	50.057	23.370	1.00	19.22	7
ATOM	1236	C	HIS	150	6.263	52.270	23.462	1.00	13.37	6
ATOM	1237	O	HIS	150	6.922	51.448	24.129	1.00	12.78	8
ATOM	1238	N	CYS	151	5.680	53.355	23.957	1.00	14.21	7
ATOM	1239	CA	CYS	151	5.670	53.559	25.414	1.00	15.38	6
ATOM	1240	C	CYS	151	4.301	53.982	25.880	1.00	16.27	6

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ATOM   1241  O   CYS   151       3.422  54.404  25.132  1.00 15.15   8
ATOM   1242  CB  CYS   151       6.746  54.562  25.856  1.00 16.85   6
ATOM   1243  SG  CYS   151       6.581  56.269  25.248  1.00 14.82  16
ATOM   1244  N   THR   152       4.080  53.805  27.186  1.00 17.41   7
ATOM   1245  CA  THR   152       2.875  54.223  27.862  1.00 17.27   6
ATOM   1246  CB  THR   152       1.899  53.131  28.305  1.00 21.80   6
ATOM   1247  OG1 THR   152       2.527  52.212  29.205  1.00 17.53   8
ATOM   1248  CG2 THR   152       1.356  52.388  27.075  1.00 17.12   6
ATOM   1249  C   THR   152       3.346  54.989  29.127  1.00 19.83   6
ATOM   1250  O   THR   152       4.471  54.724  29.600  1.00 16.21   8
ATOM   1251  N   GLY   153       2.496  55.913  29.534  1.00 17.84   7
ATOM   1252  CA  GLY   153       2.815  56.706  30.731  1.00 20.33   6
ATOM   1253  C   GLY   153       1.647  57.605  31.108  1.00 18.60   6
ATOM   1254  O   GLY   153       0.779  57.915  30.293  1.00 19.87   8
ATOM   1255  N   ASN   154       1.603  58.000  32.373  1.00 20.99   7
ATOM   1256  CA  ASN   154       0.560  58.815  32.959  1.00 20.36   6
ATOM   1257  CB  ASN   154       0.512  58.556  34.478  1.00 26.77   6
ATOM   1258  CG  ASN   154      -0.800  57.928  34.897  1.00 40.91   6
ATOM   1259  OD1 ASN   154      -1.700  58.580  35.441  1.00 46.67   8
ATOM   1260  ND2 ASN   154      -0.927  56.639  34.633  1.00 40.24   7
ATOM   1261  C   ASN   154       0.879  60.300  32.817  1.00 22.51   6
ATOM   1262  O   ASN   154       1.973  60.685  33.272  1.00 22.15   8
ATOM   1263  N   ILE   155      -0.018  61.067  32.202  1.00 19.40   7
ATOM   1264  CA  ILE   155       0.198  62.514  32.139  1.00 22.27   6
ATOM   1265  CB  ILE   155       0.210  63.116  30.731  1.00 26.29   6
ATOM   1266  CG2 ILE   155       0.327  64.640  30.831  1.00 23.31   6
ATOM   1267  CG1 ILE   155       1.367  62.544  29.899  1.00 28.16   6
ATOM   1268  CD1 ILE   155       1.371  62.874  28.434  1.00 29.42   6
ATOM   1269  C   ILE   155      -0.974  63.089  32.941  1.00 27.67   6
ATOM   1270  O   ILE   155      -2.112  62.726  32.639  1.00 24.10   8
ATOM   1271  N   GLY   156      -0.732  63.838  34.020  1.00 33.10   7
ATOM   1272  CA  GLY   156      -1.942  64.285  34.780  1.00 37.62   6
ATOM   1273  C   GLY   156      -2.447  63.053  35.527  1.00 38.80   6
ATOM   1274  O   GLY   156      -1.659  62.512  36.299  1.00 43.91   8
ATOM   1275  N   TYR   157      -3.655  62.573  35.307  1.00 41.47   7
ATOM   1276  CA  TYR   157      -4.182  61.357  35.894  1.00 43.65   6
ATOM   1277  CB  TYR   157      -5.381  61.642  36.832  1.00 51.51   6
ATOM   1278  CG  TYR   157      -5.020  62.592  37.961  1.00 57.42   6
ATOM   1279  CD1 TYR   157      -5.523  63.885  37.982  1.00 60.45   6
ATOM   1280  CE1 TYR   157      -5.179  64.765  38.992  1.00 62.57   6
ATOM   1281  CD2 TYR   157      -4.140  62.204  38.963  1.00 61.00   6
ATOM   1282  CE2 TYR   157      -3.788  63.079  39.982  1.00 63.03   6
ATOM   1283  CZ  TYR   157      -4.313  64.353  39.986  1.00 63.56   6
ATOM   1284  OH  TYR   157      -3.979  65.237  40.984  1.00 66.68   8
ATOM   1285  C   TYR   157      -4.676  60.351  34.849  1.00 41.96   6
ATOM   1286  O   TYR   157      -5.445  59.420  35.115  1.00 41.33   8
ATOM   1287  N   THR   158      -4.298  60.547  33.594  1.00 36.77   7
ATOM   1288  CA  THR   158      -4.722  59.693  32.496  1.00 30.71   6
ATOM   1289  CB  THR   158      -5.260  60.597  31.364  1.00 30.82   6
ATOM   1290  OG1 THR   158      -6.237  61.471  31.942  1.00 30.47   8
ATOM   1291  CG2 THR   158      -5.851  59.819  30.207  1.00 29.21   6
ATOM   1292  C   THR   158      -3.532  58.944  31.912  1.00 25.66   6
ATOM   1293  O   THR   158      -2.521  59.609  31.642  1.00 24.50   8
ATOM   1294  N   LEU   159      -3.689  57.664  31.609  1.00 21.00   7
ATOM   1295  CA  LEU   159      -2.617  56.924  30.960  1.00 21.01   6
ATOM   1296  CB  LEU   159      -2.737  55.435  31.284  1.00 26.53   6
ATOM   1297  CG  LEU   159      -1.601  54.487  30.958  1.00 27.15   6
ATOM   1298  CD1 LEU   159      -0.323  54.817  31.713  1.00 25.15   6
ATOM   1299  CD2 LEU   159      -1.979  53.036  31.316  1.00 28.75   6
ATOM   1300  C   LEU   159      -2.654  57.179  29.461  1.00 22.04   6
ATOM   1301  O   LEU   159      -3.711  57.248  28.844  1.00 22.64   8
ATOM   1302  N   PHE   160      -1.484  57.396  28.855  1.00 20.79   7
ATOM   1303  CA  PHE   160      -1.430  57.576  27.409  1.00 19.10   6
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ATOM   1304  CB  PHE   160      -0.821  58.946  27.060  1.00 20.91   6
ATOM   1305  CG  PHE   160      -1.848  60.034  27.216  1.00 19.50   6
ATOM   1306  CD1 PHE   160      -1.971  60.676  28.442  1.00 24.86   6
ATOM   1307  CD2 PHE   160      -2.645  60.409  26.156  1.00 21.03   6
ATOM   1308  CE1 PHE   160      -2.903  61.709  28.588  1.00 29.44   6
ATOM   1309  CE2 PHE   160      -3.582  61.421  26.296  1.00 19.89   6
ATOM   1310  CZ  PHE   160      -3.704  62.074  27.529  1.00 25.34   6
ATOM   1311  C   PHE   160      -0.521  56.513  26.794  1.00 17.36   6
ATOM   1312  O   PHE   160       0.346  55.982  27.504  1.00 18.36   8
ATOM   1313  N   SER   161      -0.753  56.240  25.521  1.00 17.60   7
ATOM   1314  CA  SER   161       0.087  55.302  24.785  1.00 14.63   6
ATOM   1315  CB  SER   161      -0.744  54.150  24.188  1.00 20.14   6
ATOM   1316  OG  SER   161       0.115  53.054  23.901  1.00 21.55   8
ATOM   1317  C   SER   161       0.662  56.037  23.561  1.00 18.96   6
ATOM   1318  O   SER   161      -0.101  56.753  22.894  1.00 19.79   8
ATOM   1319  N   SER   162       1.921  55.796  23.232  1.00 16.19   7
ATOM   1320  CA  SER   162       2.518  56.404  22.049  1.00 16.74   6
ATOM   1321  CB  SER   162       4.029  56.678  22.233  1.00 16.78   6
ATOM   1322  OG  SER   162       4.801  55.530  21.900  1.00 21.00   8
ATOM   1323  C   SER   162       2.322  55.485  20.845  1.00 18.24   6
ATOM   1324  O   SER   162       1.949  54.305  20.987  1.00 16.85   8
ATOM   1325  N   LYS   163       2.535  56.027  19.652  1.00 17.96   7
ATOM   1326  CA  LYS   163       2.484  55.203  18.445  1.00 17.36   6
ATOM   1327  CB  LYS   163       2.369  55.957  17.133  1.00 20.94   6
ATOM   1328  CG  LYS   163       1.228  56.885  16.902  1.00 25.34   6
ATOM   1329  CD  LYS   163      -0.128  56.271  16.685  1.00 29.02   6
ATOM   1330  CE  LYS   163      -0.954  57.131  15.721  1.00 42.35   6
ATOM   1331  NZ  LYS   163      -0.495  58.558  15.692  1.00 38.14   7
ATOM   1332  C   LYS   163       3.821  54.466  18.391  1.00 17.27   6
ATOM   1333  O   LYS   163       4.817  54.906  18.978  1.00 16.54   8
ATOM   1334  N   PRO   164       3.840  53.348  17.696  1.00 18.39   7
ATOM   1335  CD  PRO   164       2.702  52.743  16.952  1.00 20.79   6
ATOM   1336  CA  PRO   164       5.060  52.572  17.546  1.00 19.84   6
ATOM   1337  CB  PRO   164       4.545  51.177  17.142  1.00 17.33   6
ATOM   1338  CG  PRO   164       3.254  51.416  16.475  1.00 21.76   6
ATOM   1339  C   PRO   164       6.032  53.169  16.528  1.00 19.62   6
ATOM   1340  O   PRO   164       5.723  53.942  15.619  1.00 19.46   8
ATOM   1341  N   VAL   165       7.295  52.833  16.674  1.00 17.22   7
ATOM   1342  CA  VAL   165       8.427  53.162  15.841  1.00 20.36   6
ATOM   1343  CB  VAL   165       9.405  54.190  16.450  1.00 20.84   6
ATOM   1344  CG1 VAL   165      10.418  54.643  15.404  1.00 20.46   6
ATOM   1345  CG2 VAL   165       8.699  55.475  16.899  1.00 23.72   6
ATOM   1346  C   VAL   165       9.173  51.833  15.590  1.00 22.05   6
ATOM   1347  O   VAL   165       9.532  51.094  16.499  1.00 22.10   8
ATOM   1348  N   THR   166       9.444  51.549  14.320  1.00 24.93   7
ATOM   1349  CA  THR   166      10.111  50.317  13.939  1.00 26.07   6
ATOM   1350  CB  THR   166       9.631  49.784  12.579  1.00 31.66   6
ATOM   1351  OG1 THR   166       9.737  50.811  11.569  1.00 38.39   8
ATOM   1352  CG2 THR   166       8.180  49.353  12.694  1.00 23.71   6
ATOM   1353  C   THR   166      11.611  50.597  13.909  1.00 25.06   6
ATOM   1354  O   THR   166      11.985  51.536  13.244  1.00 21.88   8
ATOM   1355  N   ILE   167      12.362  49.878  14.714  1.00 21.40   7
ATOM   1356  CA  ILE   167      13.784  49.907  14.909  1.00 25.06   6
ATOM   1357  CB  ILE   167      14.088  50.164  16.424  1.00 26.21   6
ATOM   1358  CG2 ILE   167      15.588  50.159  16.673  1.00 26.68   6
ATOM   1359  CG1 ILE   167      13.415  51.472  16.825  1.00 26.56   6
ATOM   1360  CD1 ILE   167      13.946  52.318  17.939  1.00 30.83   6
ATOM   1361  C   ILE   167      14.416  48.572  14.501  1.00 24.36   6
ATOM   1362  O   ILE   167      14.013  47.482  14.920  1.00 23.36   8
ATOM   1363  N   THR   168      15.412  48.591  13.630  1.00 22.83   7
ATOM   1364  CA  THR   168      16.083  47.405  13.152  1.00 27.27   6
ATOM   1365  CB  THR   168      15.945  47.266  11.622  1.00 31.88   6
ATOM   1366  OG1 THR   168      14.565  47.371  11.277  1.00 32.11   8
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ATOM   1367  CG2 THR   168      16.462  45.894  11.179  1.00 34.54   6
ATOM   1368  C   THR   168      17.575  47.414  13.501  1.00 28.53   6
ATOM   1369  O   THR   168      18.190  48.483  13.508  1.00 32.64   8
ATOM   1370  N   VAL   169      18.090  46.260  13.863  1.00 23.55   7
ATOM   1371  CA  VAL   169      19.472  46.011  14.163  1.00 27.27   6
ATOM   1372  CB  VAL   169      19.728  45.359  15.523  1.00 28.51   6
ATOM   1373  CG1 VAL   169      21.227  45.133  15.757  1.00 26.42   6
ATOM   1374  CG2 VAL   169      19.189  46.160  16.696  1.00 27.97   6
ATOM   1375  C   VAL   169      20.011  45.022  13.098  1.00 32.65   6
ATOM   1376  O   VAL   169      19.332  44.056  12.710  1.00 33.21   8
ATOM   1377  N   GLN   170      21.245  45.196  12.689  0.01 33.85   7
ATOM   1378  CA  GLN   170      21.966  44.390  11.737  0.01 35.75   6
ATOM   1379  CB  GLN   170      23.335  44.027  12.362  0.01 36.48   6
ATOM   1380  CG  GLN   170      24.465  44.012  11.347  0.01 37.54   6
ATOM   1381  CD  GLN   170      25.478  45.110  11.599  0.01 37.91   6
ATOM   1382  OE1 GLN   170      25.142  46.186  12.096  0.01 38.17   8
ATOM   1383  NE2 GLN   170      26.735  44.846  11.257  0.01 38.21   7
ATOM   1384  C   GLN   170      21.355  43.088  11.241  0.01 36.70   6
ATOM   1385  O   GLN   170      21.049  42.167  11.995  0.01 36.81   8
ATOM   1386  N   VAL   171      21.273  42.959   9.919  0.01 37.51   7
ATOM   1387  CA  VAL   171      20.781  41.772   9.240  0.01 38.20   6
ATOM   1388  CB  VAL   171      19.483  41.208   9.842  0.01 38.61   6
ATOM   1389  CG1 VAL   171      18.334  42.199   9.681  0.01 38.88   6
ATOM   1390  CG2 VAL   171      19.115  39.881   9.180  0.01 38.83   6
ATOM   1391  C   VAL   171      20.587  42.048   7.750  0.01 38.42   6
ATOM   1392  O   VAL   171      21.420  41.573   6.949  0.01 38.53   8
ATOM   1393  OW0 WAT   201      13.958  68.106  19.930  1.00 18.36   8
ATOM   1394  OW0 WAT   202      13.653  41.241  23.320  1.00 24.59   8
ATOM   1395  OW0 WAT   203       5.895  57.410  18.965  1.00 14.14   8
ATOM   1396  OW0 WAT   204       9.519  72.688  30.514  1.00 42.11   8
ATOM   1397  OW0 WAT   205       8.700  64.454  28.355  1.00 21.65   8
ATOM   1398  OW0 WAT   206      25.548  65.664   7.898  1.00 24.88   8
ATOM   1399  OW0 WAT   207       2.902  52.471  31.897  1.00 19.13   8
ATOM   1400  OW0 WAT   208      14.303  45.256  23.676  1.00 24.28   8
ATOM   1401  OW0 WAT   209      10.371  62.552  29.076  1.00 27.73   8
ATOM   1402  OW0 WAT   210      12.433  66.629  21.505  1.00 14.04   8
ATOM   1403  OW0 WAT   211       5.417  47.499  21.002  1.00 16.89   8
ATOM   1404  OW0 WAT   212      29.599  82.797  11.595  1.00 34.62   8
ATOM   1405  OW0 WAT   213      17.813  70.187   2.648  1.00 16.34   8
ATOM   1406  OW0 WAT   214       6.656  58.315  16.413  1.00 24.31   8
ATOM   1407  OW0 WAT   215      21.191  80.146   5.335  1.00 30.05   8
ATOM   1408  OW0 WAT   216      15.621  66.766  18.319  1.00 18.82   8
ATOM   1409  OW0 WAT   217       6.528  56.410  14.460  1.00 26.68   8
ATOM   1410  OW0 WAT   218       6.213  69.723  22.792  1.00 19.89   8
ATOM   1411  OW0 WAT   219      12.935  67.874  24.109  1.00 29.95   8
ATOM   1412  OW0 WAT   220      -2.277  62.236  20.953  1.00 28.34   8
ATOM   1413  OW0 WAT   221      20.151  71.344   0.183  1.00 21.62   8
ATOM   1414  OW0 WAT   222      27.773  65.203   6.295  1.00 20.74   8
ATOM   1415  OW0 WAT   223      -0.481  58.864  19.811  1.00 24.67   8
ATOM   1416  OW0 WAT   224      17.815  67.914   1.120  1.00 26.99   8
ATOM   1417  OW0 WAT   225      16.604  64.761  25.523  1.00 18.45   8
ATOM   1418  OW0 WAT   226      -0.330  59.580  22.516  1.00 29.01   8
ATOM   1419  OW0 WAT   227      13.324  40.955  17.129  1.00 40.98   8
ATOM   1420  OW0 WAT   228       9.214  41.380  22.450  1.00 41.91   8
ATOM   1421  OW0 WAT   229      20.146  82.270  13.850  1.00 50.03   8
ATOM   1422  OW0 WAT   230      21.707  80.353  12.325  1.00 18.46   8
ATOM   1423  OW0 WAT   231      15.403  67.167  25.599  1.00 21.44   8
ATOM   1424  OW0 WAT   232      12.703  63.258  30.174  1.00 37.28   8
ATOM   1425  OW0 WAT   233      12.479  61.400  39.250  1.00 23.78   8
ATOM   1426  OW0 WAT   234      13.921  59.460   9.106  1.00 40.49   8
ATOM   1427  OW0 WAT   235       7.230  72.381  24.432  1.00 41.81   8
ATOM   1428  OW0 WAT   236       2.989  58.681  19.344  1.00 17.29   8
ATOM   1429  OW0 WAT   237      12.865  75.036  10.180  1.00 47.19   8
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ATOM   1430  OW0 WAT   238       2.754  67.991  13.259  1.00 35.75    8
ATOM   1431  OW0 WAT   239      17.416  57.608  26.641  1.00 32.09    8
ATOM   1432  OW0 WAT   240      31.068  75.579  10.888  1.00 20.85    8
ATOM   1433  OW0 WAT   241      17.725  71.985  21.261  1.00 25.43    8
ATOM   1434  OW0 WAT   242      32.760  65.251   6.079  1.00 38.04    8
ATOM   1435  OW0 WAT   243      14.079  72.373  25.218  1.00 20.23    8
ATOM   1436  OW0 WAT   244      16.644  77.936  -2.315  1.00 34.00    8
ATOM   1437  OW0 WAT   245       1.790  62.643  35.518  1.00 30.63    8
ATOM   1438  OW0 WAT   246      10.026  76.840  13.639  1.00 31.10    8
ATOM   1439  OW0 WAT   247      11.096  40.538  24.599  1.00 33.25    8
ATOM   1440  OW0 WAT   248      19.457  73.016  -2.970  1.00 36.88    8
ATOM   1441  OW0 WAT   249      18.578  60.108  26.756  1.00 30.86    8
ATOM   1442  OW0 WAT   250      11.119  78.675  16.190  1.00 37.83    8
ATOM   1443  OW0 WAT   251       2.583  76.687  28.032  1.00 73.18    8
ATOM   1444  OW0 WAT   252       0.243  75.153  22.803  1.00 34.15    8
ATOM   1445  OW0 WAT   253      33.328  82.165  10.255  1.00 23.17    8
ATOM   1446  OW0 WAT   254      22.212  87.081   5.080  1.00 51.41    8
ATOM   1447  OW0 WAT   255      21.393  83.921  11.680  1.00 31.47    8
ATOM   1448  OW0 WAT   256      37.174  72.382   4.349  1.00 36.66    8
ATOM   1449  OW0 WAT   257      23.291  53.950  13.981  1.00 45.02    8
ATOM   1450  OW0 WAT   258      31.521  80.134   5.404  1.00 28.19    8
ATOM   1451  OW0 WAT   259      11.904  78.169   8.209  1.00 61.39    8
ATOM   1452  OW0 WAT   260       7.393  36.160  24.668  1.00 45.96    8
ATOM   1453  OW0 WAT   261      12.356  70.954  23.727  1.00 23.77    8
ATOM   1454  OW0 WAT   262      33.898  69.078   7.353  1.00 32.96    8
ATOM   1455  OW0 WAT   263      28.502  52.764  25.478  1.00 58.40    8
ATOM   1456  OW0 WAT   264      23.414  37.810  18.427  1.00 35.16    8
ATOM   1457  OW0 WAT   265       4.792  74.631  16.778  1.00 44.49    8
ATOM   1458  OW0 WAT   266      28.509  77.721  -1.620  1.00 50.51    8
ATOM   1459  OW0 WAT   267      19.685  68.488  -0.712  1.00 45.74    8
ATOM   1460  OW0 WAT   268      10.899  74.487  23.620  1.00 43.61    8
ATOM   1461  OW0 WAT   269      -1.033  73.720  20.128  1.00 34.52    8
ATOM   1462  OW0 WAT   270      15.215  67.397   0.077  1.00 27.35    8
ATOM   1463  OW0 WAT   271       8.748  79.989  16.508  1.00 51.59    8
ATOM   1464  OW0 WAT   272      22.332  82.314   3.707  1.00 30.25    8
ATOM   1465  OW0 WAT   273      23.373  70.771  17.610  1.00 22.44    8
ATOM   1466  OW0 WAT   274      11.965  67.872  26.359  1.00 26.92    8
ATOM   1467  OW0 WAT   275      35.793  71.146   7.198  1.00 27.19    8
ATOM   1468  OW0 WAT   276      10.333  72.530  25.867  1.00 46.78    8
ATOM   1469  OW0 WAT   277      17.230  69.185  24.852  1.00 26.22    8
ATOM   1470  OW0 WAT   278      17.594  51.432  30.830  1.00 32.58    8
ATOM   1471  OW0 WAT   279       8.561  67.703  32.884  1.00 37.04    8
ATOM   1472  OW0 WAT   280      16.374  71.765  -4.195  1.00 31.45    8
ATOM   1473  OW0 WAT   281       8.995  70.329  24.946  1.00 36.64    8
ATOM   1474  OW0 WAT   282      19.019  47.051  28.676  1.00 48.06    8
ATOM   1475  OW0 WAT   283      20.039  61.350  15.742  1.00 23.23    8
ATOM   1476  OW0 WAT   284      21.308  55.309  20.658  1.00 28.24    8
ATOM   1477  OW0 WAT   285       7.405  70.019   5.261  1.00 41.47    8
ATOM   1478  OW0 WAT   286      23.729  66.066   0.632  1.00 30.27    8
ATOM   1479  OW0 WAT   287      15.826  40.095  23.946  1.00 41.94    8
ATOM   1480  OW0 WAT   288      -0.119  50.371  24.812  0.50 25.93    8
ATOM   1481  OW0 WAT   289       3.397  54.879  42.245  1.00 29.87    8
ATOM   1482  OW0 WAT   290      10.215  53.151  32.270  1.00 43.33    8
ATOM   1483  OW0 WAT   291       8.440  65.109  33.883  1.00 34.09    8
END
```

TABLE 2

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REMARK Written by O version 5.10.1
REMARK Wed May 20 10:23:51 1998
CRYST1   79.221  100.866   28.172  90.00  90.00  90.00
ORIGX1      1.000000  0.000000  0.000000        0.00000
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ORIGX2      0.000000  1.000000  0.000000        0.00000
ORIGX3      0.000000  0.000000  1.000000        0.00000
SCALE1      0.012623  0.000000  0.000000        0.00000
SCALE2      0.000000  0.009914  0.000000        0.00000
SCALE3      0.000000  0.000000  0.035496        0.00000
ATOM      1  CB  ALA     1      36.645  68.826  -4.702  1.00 51.37   6
ATOM      2  C   ALA     1      36.199  68.294  -2.285  1.00 42.22   6
ATOM      3  O   ALA     1      36.801  67.492  -1.569  1.00 42.70   8
ATOM      4  N   ALA     1      34.367  68.121  -3.997  1.00 45.74   7
ATOM      5  CA  ALA     1      35.829  67.992  -3.724  1.00 43.68   6
ATOM      6  N   PRO     2      35.903  69.499  -1.817  1.00 40.54   7
ATOM      7  CD  PRO     2      35.149  70.546  -2.533  1.00 38.91   6
ATOM      8  CA  PRO     2      36.172  69.844  -0.425  1.00 38.61   6
ATOM      9  CB  PRO     2      35.765  71.300  -0.322  1.00 39.86   6
ATOM     10  CG  PRO     2      34.790  71.513  -1.426  1.00 41.36   6
ATOM     11  C   PRO     2      35.294  68.931   0.434  1.00 36.70   6
ATOM     12  O   PRO     2      34.188  68.654  -0.042  1.00 32.46   8
ATOM     13  N   PRO     3      35.789  68.496   1.579  1.00 33.82   7
ATOM     14  CD  PRO     3      37.120  68.857   2.110  1.00 35.16   6
ATOM     15  CA  PRO     3      35.069  67.637   2.491  1.00 38.25   6
ATOM     16  CB  PRO     3      35.872  67.639   3.799  1.00 37.39   6
ATOM     17  CG  PRO     3      37.180  68.267   3.486  1.00 37.41   6
ATOM     18  C   PRO     3      33.653  68.136   2.790  1.00 37.48   6
ATOM     19  O   PRO     3      33.393  69.335   2.683  1.00 34.39   8
ATOM     20  N   LYS     4      32.763  67.212   3.173  1.00 37.04   7
ATOM     21  CA  LYS     4      31.399  67.678   3.424  1.00 34.97   6
ATOM     22  CB  LYS     4      30.318  66.664   3.122  1.00 43.98   6
ATOM     23  CG  LYS     4      30.564  65.191   3.278  1.00 47.64   6
ATOM     24  CD  LYS     4      29.775  64.349   2.292  1.00 52.03   6
ATOM     25  CE  LYS     4      28.317  64.743   2.137  1.00 57.56   6
ATOM     26  NZ  LYS     4      27.724  64.253   0.855  1.00 56.40   7
ATOM     27  C   LYS     4      31.243  68.234   4.825  1.00 31.44   6
ATOM     28  O   LYS     4      31.846  67.769   5.784  1.00 29.91   8
ATOM     29  N   ALA     5      30.416  69.280   4.908  1.00 28.75   7
ATOM     30  CA  ALA     5      30.039  69.813   6.218  1.00 27.21   6
ATOM     31  CB  ALA     5      29.155  71.032   6.110  1.00 21.94   6
ATOM     32  C   ALA     5      29.278  68.683   6.923  1.00 26.42   6
ATOM     33  O   ALA     5      28.760  67.794   6.222  1.00 26.10   8
ATOM     34  N   VAL     6      29.231  68.674   8.241  1.00 24.91   7
ATOM     35  CA  VAL     6      28.515  67.632   8.985  1.00 26.95   6
ATOM     36  CB  VAL     6      29.490  66.738   9.770  1.00 29.36   6
ATOM     37  CG1 VAL     6      28.779  65.726  10.676  1.00 29.86   6
ATOM     38  CG2 VAL     6      30.434  66.024   8.801  1.00 26.74   6
ATOM     39  C   VAL     6      27.503  68.253   9.942  1.00 28.93   6
ATOM     40  O   VAL     6      27.846  68.994  10.866  1.00 31.46   8
ATOM     41  N   LEU     7      26.233  67.929   9.758  1.00 30.08   7
ATOM     42  CA  LEU     7      25.105  68.383  10.546  1.00 29.33   6
ATOM     43  CB  LEU     7      23.839  68.346   9.657  1.00 33.18   6
ATOM     44  CG  LEU     7      22.828  69.458   9.960  1.00 34.94   6
ATOM     45  CD1 LEU     7      22.082  69.876   8.721  1.00 27.55   6
ATOM     46  CD2 LEU     7      21.887  69.002  11.069  1.00 32.30   6
ATOM     47  C   LEU     7      24.816  67.565  11.794  1.00 29.57   6
ATOM     48  O   LEU     7      24.653  66.351  11.800  1.00 30.04   8
ATOM     49  N   LYS     8      24.768  68.242  12.930  1.00 28.04   7
ATOM     50  CA  LYS     8      24.568  67.692  14.257  1.00 25.12   6
ATOM     51  CB  LYS     8      25.738  68.179  15.132  1.00 33.32   6
ATOM     52  CG  LYS     8      25.777  67.611  16.532  1.00 39.37   6
ATOM     53  CD  LYS     8      25.967  68.598  17.652  1.00 43.84   6
ATOM     54  CE  LYS     8      27.129  69.561  17.487  1.00 47.78   6
ATOM     55  NZ  LYS     8      27.525  70.175  18.793  1.00 48.98   7
ATOM     56  C   LYS     8      23.233  68.192  14.797  1.00 24.53   6
ATOM     57  O   LYS     8      22.934  69.384  14.739  1.00 25.35   8
ATOM     58  N   LEU     9      22.423  67.310  15.333  1.00 24.78   7
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ATOM	59	CA	LEU	9	21.080	67.553	15.843	1.00	22.07	6
ATOM	60	CB	LEU	9	20.189	66.483	15.190	1.00	20.04	6
ATOM	61	CG	LEU	9	18.725	66.363	15.596	1.00	20.57	6
ATOM	62	CD1	LEU	9	17.980	67.624	15.214	1.00	19.57	6
ATOM	63	CD2	LEU	9	18.084	65.137	14.903	1.00	23.44	6
ATOM	64	C	LEU	9	21.019	67.415	17.346	1.00	21.01	6
ATOM	65	O	LEU	9	21.424	66.393	17.869	1.00	22.38	8
ATOM	66	N	GLU	10	20.583	68.410	18.118	1.00	22.53	7
ATOM	67	CA	GLU	10	20.480	68.285	19.567	1.00	21.02	6
ATOM	68	CB	GLU	10	21.523	69.182	20.270	1.00	27.36	6
ATOM	69	CGA	GLU	10	22.971	68.778	20.090	0.50	28.21	6
ATOM	70	CGB	GLU	10	22.946	68.657	20.195	0.50	38.29	6
ATOM	71	CDA	GLU	10	24.047	69.789	20.422	0.50	28.55	6
ATOM	72	CDB	GLU	10	23.100	67.202	20.587	0.50	43.48	6
ATOM	73	OE1	GLU	10	25.131	69.365	20.907	0.50	26.56	8
ATOM	74	OE1	GLU	10	22.443	66.771	21.565	0.50	47.24	8
ATOM	75	OE2	GLU	10	23.888	71.008	20.186	0.50	22.10	8
ATOM	76	OE2	GLU	10	23.871	66.486	19.908	0.50	46.42	8
ATOM	77	C	GLU	10	19.096	68.728	20.008	1.00	19.76	6
ATOM	78	O	GLU	10	18.701	69.842	19.613	1.00	18.00	8
ATOM	79	N	PRO	11	18.423	67.995	20.888	1.00	19.07	7
ATOM	80	CD	PRO	11	17.058	68.340	21.390	1.00	18.71	6
ATOM	81	CA	PRO	11	18.834	66.662	21.319	1.00	18.84	6
ATOM	82	CB	PRO	11	17.807	66.272	22.365	1.00	17.38	6
ATOM	83	CG	PRO	11	16.560	67.000	21.944	1.00	18.86	6
ATOM	84	C	PRO	11	18.787	65.758	20.090	1.00	20.01	6
ATOM	85	O	PRO	11	18.310	66.212	19.051	1.00	16.22	8
ATOM	86	N	PRO	12	19.232	64.517	20.155	1.00	19.94	7
ATOM	87	CD	PRO	12	19.915	63.948	21.361	1.00	21.08	6
ATOM	88	CA	PRO	12	19.409	63.700	18.976	1.00	20.68	6
ATOM	89	CB	PRO	12	20.455	62.656	19.397	1.00	19.82	6
ATOM	90	CG	PRO	12	20.292	62.567	20.872	1.00	23.59	6
ATOM	91	C	PRO	12	18.179	63.061	18.395	1.00	18.70	6
ATOM	92	O	PRO	12	18.268	62.475	17.318	1.00	19.85	8
ATOM	93	N	TRP	13	17.039	63.169	19.059	1.00	15.64	7
ATOM	94	CA	TRP	13	15.815	62.568	18.561	1.00	17.91	6
ATOM	95	CB	TRP	13	14.688	62.840	19.562	1.00	14.32	6
ATOM	96	CG	TRP	13	15.124	62.749	21.006	1.00	16.77	6
ATOM	97	CD2	TRP	13	15.633	61.612	21.703	1.00	16.90	6
ATOM	98	CE2	TRP	13	15.899	62.005	23.032	1.00	16.87	6
ATOM	99	CE3	TRP	13	15.867	60.279	21.350	1.00	18.03	6
ATOM	100	CD1	TRP	13	15.106	63.769	21.916	1.00	18.97	6
ATOM	101	NE1	TRP	13	15.589	63.343	23.137	1.00	11.16	7
ATOM	102	CZ2	TRP	13	16.405	61.124	23.973	1.00	15.92	6
ATOM	103	CZ3	TRP	13	16.358	59.409	22.301	1.00	10.59	6
ATOM	104	CH2	TRP	13	16.645	59.825	23.611	1.00	17.87	6
ATOM	105	C	TRP	13	15.421	63.033	17.163	1.00	19.47	6
ATOM	106	O	TRP	13	15.283	64.238	16.908	1.00	17.22	8
ATOM	107	N	ILE	14	15.101	62.078	16.275	1.00	16.57	7
ATOM	108	CA	ILE	14	14.666	62.441	14.936	1.00	18.93	6
ATOM	109	CB	ILE	14	15.185	61.523	13.816	1.00	16.07	6
ATOM	110	CG2	ILE	14	16.720	61.521	13.840	1.00	16.61	6
ATOM	111	CG1	ILE	14	14.582	60.119	13.972	1.00	21.35	6
ATOM	112	CD1	ILE	14	15.045	59.150	12.896	1.00	26.28	6
ATOM	113	C	ILE	14	13.144	62.549	14.825	1.00	20.48	6
ATOM	114	O	ILE	14	12.652	63.048	13.817	1.00	19.41	8
ATOM	115	N	ASN	15	12.403	62.087	15.836	1.00	19.46	7
ATOM	116	CA	ASN	15	10.935	62.270	15.778	1.00	18.11	6
ATOM	117	CB	ASN	15	10.161	60.962	15.731	1.00	13.53	6
ATOM	118	CG	ASN	15	10.591	59.946	16.762	1.00	19.11	6
ATOM	119	OD1	ASN	15	11.728	59.959	17.227	1.00	13.35	8
ATOM	120	ND2	ASN	15	9.688	59.033	17.142	1.00	10.11	7
ATOM	121	C	ASN	15	10.632	63.124	17.005	1.00	17.54	6

ATOM	122	O	ASN	15	11.016	62.735	18.111	1.00	15.32	8
ATOM	123	N	VAL	16	10.122	64.331	16.805	1.00	16.86	7
ATOM	124	CA	VAL	16	9.871	65.273	17.893	1.00	15.77	6
ATOM	125	CB	VAL	16	10.761	66.534	17.748	1.00	16.54	6
ATOM	126	CG1	VAL	16	12.251	66.141	17.733	1.00	13.42	6
ATOM	127	CG2	VAL	16	10.490	67.345	16.491	1.00	18.04	6
ATOM	128	C	VAL	16	8.420	65.708	17.921	1.00	19.01	6
ATOM	129	O	VAL	16	7.618	65.381	17.010	1.00	17.12	8
ATOM	130	N	LEU	17	8.022	66.422	18.964	1.00	17.68	7
ATOM	131	CA	LEU	17	6.664	66.962	19.068	1.00	15.11	6
ATOM	132	CB	LEU	17	6.162	66.726	20.522	1.00	20.26	6
ATOM	133	CG	LEU	17	5.873	65.251	20.823	1.00	23.07	6
ATOM	134	CD1	LEU	17	5.447	65.013	22.253	1.00	17.70	6
ATOM	135	CD2	LEU	17	4.832	64.714	19.855	1.00	26.74	6
ATOM	136	C	LEU	17	6.563	68.439	18.732	1.00	16.37	6
ATOM	137	O	LEU	17	7.518	69.187	18.961	1.00	18.24	8
ATOM	138	N	GLN	18	5.424	68.931	18.227	1.00	18.55	7
ATOM	139	CA	GLN	18	5.237	70.370	18.032	1.00	19.13	6
ATOM	140	CB	GLN	18	3.790	70.721	17.696	1.00	31.65	6
ATOM	141	CG	GLN	18	3.510	71.249	16.314	1.00	37.32	6
ATOM	142	CD	GLN	18	2.120	70.902	15.800	1.00	36.92	6
ATOM	143	OE1	GLN	18	1.953	70.032	14.943	1.00	30.97	8
ATOM	144	NE2	GLN	18	1.135	71.618	16.333	1.00	31.73	7
ATOM	145	C	GLN	18	5.561	71.077	19.348	1.00	19.43	6
ATOM	146	O	GLN	18	5.194	70.568	20.413	1.00	18.10	8
ATOM	147	N	GLU	19	6.317	72.164	19.232	1.00	19.68	7
ATOM	148	CA	GLU	19	6.727	73.045	20.293	1.00	18.88	6
ATOM	149	CB	GLU	19	5.597	73.341	21.293	1.00	27.39	6
ATOM	150	CG	GLU	19	4.649	74.418	20.714	1.00	30.12	6
ATOM	151	CD	GLU	19	3.558	74.699	21.720	1.00	41.87	6
ATOM	152	OE1	GLU	19	3.857	75.330	22.758	1.00	48.83	8
ATOM	153	OE2	GLU	19	2.421	74.272	21.464	1.00	46.61	8
ATOM	154	C	GLU	19	8.004	72.622	20.998	1.00	21.46	6
ATOM	155	O	GLU	19	8.496	73.405	21.815	1.00	26.39	8
ATOM	156	N	ASP	20	8.606	71.506	20.619	1.00	19.91	7
ATOM	157	CA	ASP	20	9.898	71.094	21.114	1.00	20.76	6
ATOM	158	CB	ASP	20	10.285	69.649	20.726	1.00	13.47	6
ATOM	159	CG	ASP	20	9.587	68.578	21.526	1.00	13.93	6
ATOM	160	OD1	ASP	20	8.873	68.805	22.534	1.00	17.57	8
ATOM	161	OD2	ASP	20	9.723	67.405	21.104	1.00	13.79	8
ATOM	162	C	ASP	20	11.002	71.950	20.451	1.00	19.58	6
ATOM	163	O	ASP	20	10.913	72.219	19.262	1.00	17.49	8
ATOM	164	N	SER	21	12.071	72.198	21.174	1.00	17.22	7
ATOM	165	CA	SER	21	13.233	72.929	20.659	1.00	17.62	6
ATOM	166	CBA	SER	21	14.011	73.525	21.844	0.50	17.49	6
ATOM	167	CBB	SER	21	13.981	73.556	21.846	0.50	13.14	6
ATOM	168	OGA	SER	21	14.900	74.516	21.355	0.50	22.95	8
ATOM	169	OGB	SER	21	13.175	74.579	22.416	0.50	6.85	8
ATOM	170	C	SER	21	14.181	72.038	19.873	1.00	18.61	6
ATOM	171	O	SER	21	14.424	70.884	20.265	1.00	21.41	8
ATOM	172	N	VAL	22	14.638	72.512	18.721	1.00	15.80	7
ATOM	173	CA	VAL	22	15.585	71.733	17.910	1.00	17.93	6
ATOM	174	CB	VAL	22	15.052	71.234	16.560	1.00	20.37	6
ATOM	175	CG1	VAL	22	16.093	70.401	15.804	1.00	17.77	6
ATOM	176	CG2	VAL	22	13.858	70.300	16.679	1.00	17.26	6
ATOM	177	C	VAL	22	16.822	72.609	17.665	1.00	19.20	6
ATOM	178	O	VAL	22	16.633	73.769	17.291	1.00	18.52	8
ATOM	179	N	THR	23	18.021	72.107	17.917	1.00	16.32	7
ATOM	180	CA	THR	23	19.249	72.823	17.648	1.00	19.99	6
ATOM	181	CB	THR	23	20.080	73.128	18.911	1.00	22.97	6
ATOM	182	OG1	THR	23	19.192	73.749	19.850	1.00	18.42	8
ATOM	183	CG2	THR	23	21.241	74.057	18.614	1.00	16.78	6
ATOM	184	C	THR	23	20.098	72.016	16.658	1.00	24.68	6

ATOM	185	O	THR	23	20.509	70.880	16.897	1.00	22.59	8
ATOM	186	N	LEU	24	20.257	72.618	15.467	1.00	23.73	7
ATOM	187	CA	LEU	24	21.081	72.051	14.423	1.00	23.11	6
ATOM	188	CB	LEU	24	20.427	72.206	13.046	1.00	20.25	6
ATOM	189	CG	LEU	24	19.053	71.480	12.959	1.00	23.95	6
ATOM	190	CD1	LEU	24	18.324	71.856	11.681	1.00	20.78	6
ATOM	191	CD2	LEU	24	19.251	69.985	13.049	1.00	22.74	6
ATOM	192	C	LEU	24	22.444	72.763	14.450	1.00	25.87	6
ATOM	193	O	LEU	24	22.470	74.008	14.537	1.00	24.57	8
ATOM	194	N	THR	25	23.520	71.980	14.367	1.00	20.22	7
ATOM	195	CA	THR	25	24.847	72.600	14.336	1.00	23.21	6
ATOM	196	CB	THR	25	25.656	72.265	15.597	1.00	27.69	6
ATOM	197	OG1	THR	25	24.945	72.730	16.755	1.00	26.30	8
ATOM	198	CG2	THR	25	27.041	72.925	15.590	1.00	28.49	6
ATOM	199	C	THR	25	25.604	72.166	13.075	1.00	22.31	6
ATOM	200	O	THR	25	25.706	70.951	12.819	1.00	23.86	8
ATOM	201	N	CYS	26	26.092	73.134	12.307	1.00	18.68	7
ATOM	202	CA	CYS	26	26.832	72.888	11.075	1.00	23.20	6
ATOM	203	C	CYS	26	28.345	72.910	11.346	1.00	23.06	6
ATOM	204	O	CYS	26	28.957	73.980	11.556	1.00	23.76	8
ATOM	205	CB	CYS	26	26.509	73.881	9.958	1.00	17.92	6
ATOM	206	SG	CYS	26	27.138	73.358	8.311	1.00	22.25	16
ATOM	207	N	GLN	27	28.929	71.729	11.355	1.00	19.35	7
ATOM	208	CA	GLN	27	30.332	71.521	11.658	1.00	23.30	6
ATOM	209	CB	GLN	27	30.543	70.209	12.464	1.00	29.78	6
ATOM	210	CG	GLN	27	29.623	70.044	13.672	1.00	31.50	6
ATOM	211	CD	GLN	27	29.927	68.828	14.518	1.00	33.01	6
ATOM	212	OE1	GLN	27	30.322	67.774	14.032	1.00	38.67	8
ATOM	213	NE2	GLN	27	29.792	68.895	15.834	1.00	36.36	7
ATOM	214	C	GLN	27	31.169	71.417	10.377	1.00	26.33	6
ATOM	215	O	GLN	27	30.764	70.856	9.347	1.00	23.15	8
ATOM	216	N	GLY	28	32.363	72.019	10.438	1.00	27.69	7
ATOM	217	CA	GLY	28	33.289	72.019	9.313	1.00	28.02	6
ATOM	218	C	GLY	28	34.022	73.360	9.215	1.00	29.41	6
ATOM	219	O	GLY	28	33.639	74.335	9.862	1.00	28.46	8
ATOM	220	N	ALA	29	35.062	73.421	8.389	1.00	27.48	7
ATOM	221	CA	ALA	29	35.824	74.640	8.210	1.00	27.39	6
ATOM	222	CB	ALA	29	36.979	74.353	7.239	1.00	25.91	6
ATOM	223	C	ALA	29	34.959	75.730	7.574	1.00	28.27	6
ATOM	224	O	ALA	29	34.315	75.415	6.561	1.00	26.07	8
ATOM	225	N	ARG	30	35.060	76.951	8.064	1.00	23.97	7
ATOM	226	CA	ARG	30	34.303	78.055	7.490	1.00	27.17	6
ATOM	227	CB	ARG	30	33.571	78.823	8.601	1.00	30.34	6
ATOM	228	CG	ARG	30	32.574	78.090	9.460	1.00	34.05	6
ATOM	229	CD	ARG	30	32.365	78.880	10.761	1.00	33.86	6
ATOM	230	NE	ARG	30	32.407	77.902	11.836	1.00	38.60	7
ATOM	231	CZ	ARG	30	32.487	78.082	13.126	1.00	38.08	6
ATOM	232	NH1	ARG	30	32.567	79.298	13.635	1.00	36.51	7
ATOM	233	NH2	ARG	30	32.467	76.990	13.879	1.00	46.13	7
ATOM	234	C	ARG	30	35.194	79.148	6.880	1.00	26.70	6
ATOM	235	O	ARG	30	36.399	79.142	7.075	1.00	29.22	8
ATOM	236	N	SER	31	34.573	80.129	6.246	1.00	26.85	7
ATOM	237	CA	SER	31	35.315	81.284	5.738	1.00	26.56	6
ATOM	238	CB	SER	31	34.682	81.846	4.476	1.00	25.03	6
ATOM	239	OG	SER	31	34.562	80.875	3.477	1.00	27.59	8
ATOM	240	C	SER	31	35.273	82.321	6.861	1.00	26.58	6
ATOM	241	O	SER	31	34.396	82.246	7.739	1.00	23.91	8
ATOM	242	N	PRO	32	36.163	83.308	6.839	1.00	23.48	7
ATOM	243	CD	PRO	32	37.224	83.483	5.842	1.00	22.70	6
ATOM	244	CA	PRO	32	36.176	84.350	7.861	1.00	24.75	6
ATOM	245	CB	PRO	32	37.621	84.830	7.805	1.00	24.34	6
ATOM	246	CG	PRO	32	38.095	84.571	6.414	1.00	23.77	6
ATOM	247	C	PRO	32	35.172	85.449	7.549	1.00	29.23	6

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ATOM    248  O   PRO    32      35.472  86.609   7.223  1.00 28.28    8
ATOM    249  N   GLU    33      33.913  85.121   7.709  1.00 29.77    7
ATOM    250  CA  GLU    33      32.725  85.896   7.417  1.00 33.37    6
ATOM    251  CBA GLU    33      32.177  85.426   6.073  0.50 35.18    6
ATOM    252  CBB GLU    33      32.123  85.457   6.084  0.50 31.98    6
ATOM    253  CGA GLU    33      30.795  84.829   5.952  0.50 39.40    6
ATOM    254  CGB GLU    33      31.776  83.990   5.954  0.50 34.05    6
ATOM    255  CDA GLU    33      30.394  84.525   4.521  0.50 46.48    6
ATOM    256  CDB GLU    33      31.601  83.533   4.517  0.50 34.67    6
ATOM    257  OE1 GLU    33      29.268  84.856   4.076  0.50 49.23    8
ATOM    258  OE1 GLU    33      32.194  84.168   3.619  0.50 32.81    8
ATOM    259  OE2 GLU    33      31.232  83.952   3.788  0.50 47.50    8
ATOM    260  OE2 GLU    33      30.877  82.542   4.275  0.50 24.64    8
ATOM    261  C   GLU    33      31.683  85.689   8.519  1.00 32.61    6
ATOM    262  O   GLU    33      31.612  84.600   9.085  1.00 28.72    8
ATOM    263  N   SER    34      30.844  86.682   8.743  1.00 32.15    7
ATOM    264  CA  SER    34      29.804  86.591   9.764  1.00 32.72    6
ATOM    265  CB  SER    34      29.277  88.013  10.037  1.00 34.26    6
ATOM    266  OG  SER    34      28.320  87.931  11.093  1.00 45.88    8
ATOM    267  C   SER    34      28.668  85.674   9.332  1.00 30.93    6
ATOM    268  O   SER    34      28.156  84.883  10.124  1.00 28.87    8
ATOM    269  N   ASP    35      28.222  85.773   8.082  1.00 28.02    7
ATOM    270  CA  ASP    35      27.167  84.858   7.599  1.00 28.62    6
ATOM    271  CB  ASP    35      26.292  85.538   6.585  1.00 29.65    6
ATOM    272  CG  ASP    35      25.357  86.639   7.057  1.00 37.43    6
ATOM    273  OD1 ASP    35      25.027  86.769   8.258  1.00 33.53    8
ATOM    274  OD2 ASP    35      24.902  87.396   6.154  1.00 36.01    8
ATOM    275  C   ASP    35      27.882  83.643   6.973  1.00 27.08    6
ATOM    276  O   ASP    35      27.997  83.566   5.756  1.00 28.07    8
ATOM    277  N   SER    36      28.461  82.748   7.774  1.00 25.55    7
ATOM    278  CA  SER    36      29.282  81.680   7.225  1.00 27.45    6
ATOM    279  CB  SER    36      30.440  81.431   8.213  1.00 34.87    6
ATOM    280  OG  SER    36      29.973  80.802   9.405  1.00 39.51    8
ATOM    281  C   SER    36      28.558  80.382   6.890  1.00 27.14    6
ATOM    282  O   SER    36      29.143  79.421   6.363  1.00 25.67    8
ATOM    283  N   ILE    37      27.293  80.223   7.231  1.00 24.64    7
ATOM    284  CA  ILE    37      26.580  78.973   6.977  1.00 24.33    6
ATOM    285  CB  ILE    37      26.164  78.307   8.309  1.00 30.71    6
ATOM    286  CG2 ILE    37      25.561  76.931   8.032  1.00 26.94    6
ATOM    287  CG1 ILE    37      27.333  78.221   9.308  1.00 21.66    6
ATOM    288  CD1 ILE    37      28.443  77.278   8.867  1.00 27.66    6
ATOM    289  C   ILE    37      25.336  79.159   6.128  1.00 24.08    6
ATOM    290  O   ILE    37      24.515  80.033   6.390  1.00 23.50    8
ATOM    291  N   GLN    38      25.122  78.314   5.127  1.00 24.52    7
ATOM    292  CA  GLN    38      23.862  78.296   4.399  1.00 23.13    6
ATOM    293  CB  GLN    38      24.016  78.068   2.905  1.00 29.28    6
ATOM    294  CG  GLN    38      24.458  79.296   2.123  1.00 29.86    6
ATOM    295  CD  GLN    38      24.692  78.965   0.661  1.00 33.48    6
ATOM    296  OE1 GLN    38      25.540  78.122   0.323  1.00 28.34    8
ATOM    297  NE2 GLN    38      23.922  79.668  -0.177  1.00 38.54    7
ATOM    298  C   GLN    38      23.048  77.128   4.985  1.00 23.81    6
ATOM    299  O   GLN    38      23.598  76.022   5.087  1.00 22.62    8
ATOM    300  N   TRP    39      21.807  77.386   5.371  1.00 21.43    7
ATOM    301  CA  TRP    39      20.987  76.304   5.905  1.00 21.73    6
ATOM    302  CB  TRP    39      20.345  76.633   7.257  1.00 21.01    6
ATOM    303  CG  TRP    39      21.264  76.633   8.430  1.00 17.58    6
ATOM    304  CD2 TRP    39      21.721  75.523   9.212  1.00 17.00    6
ATOM    305  CE2 TRP    39      22.569  76.033  10.220  1.00 16.71    6
ATOM    306  CE3 TRP    39      21.495  74.147   9.158  1.00 21.47    6
ATOM    307  CD1 TRP    39      21.844  77.750   8.974  1.00 19.92    6
ATOM    308  NE1 TRP    39      22.626  77.400  10.061  1.00 22.18    7
ATOM    309  CZ2 TRP    39      23.218  75.220  11.152  1.00 18.29    6
ATOM    310  CZ3 TRP    39      22.109  73.329  10.091  1.00 21.62    6
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ATOM	311	CH2	TRP	39	22.960	73.874	11.064	1.00	20.15	6
ATOM	312	C	TRP	39	19.890	75.993	4.898	1.00	22.76	6
ATOM	313	O	TRP	39	19.407	76.925	4.238	1.00	23.42	8
ATOM	314	N	PHE	40	19.533	74.701	4.758	1.00	22.91	7
ATOM	315	CA	PHE	40	18.512	74.389	3.754	1.00	26.86	6
ATOM	316	CB	PHE	40	19.121	73.722	2.513	1.00	24.16	6
ATOM	317	CG	PHE	40	20.225	74.429	1.788	1.00	23.96	6
ATOM	318	CD1	PHE	40	21.551	74.280	2.189	1.00	23.61	6
ATOM	319	CD2	PHE	40	19.945	75.244	0.696	1.00	22.47	6
ATOM	320	CE1	PHE	40	22.564	74.919	1.504	1.00	20.83	6
ATOM	321	CE2	PHE	40	20.967	75.880	0.020	1.00	21.69	6
ATOM	322	CZ	PHE	40	22.267	75.740	0.432	1.00	21.86	6
ATOM	323	C	PHE	40	17.466	73.435	4.349	1.00	23.51	6
ATOM	324	O	PHE	40	17.838	72.588	5.151	1.00	21.94	8
ATOM	325	N	HIS	41	16.232	73.575	3.905	1.00	21.59	7
ATOM	326	CA	HIS	41	15.107	72.771	4.366	1.00	24.07	6
ATOM	327	CB	HIS	41	14.032	73.572	5.099	1.00	18.72	6
ATOM	328	CG	HIS	41	12.864	72.727	5.548	1.00	23.41	6
ATOM	329	CD2	HIS	41	12.794	71.415	5.899	1.00	21.85	6
ATOM	330	ND1	HIS	41	11.588	73.218	5.709	1.00	21.97	7
ATOM	331	CE1	HIS	41	10.789	72.259	6.135	1.00	22.79	6
ATOM	332	NE2	HIS	41	11.504	71.161	6.268	1.00	21.87	7
ATOM	333	C	HIS	41	14.455	72.163	3.115	1.00	21.83	6
ATOM	334	O	HIS	41	13.972	72.919	2.282	1.00	21.37	8
ATOM	335	N	ASN	42	14.576	70.847	2.959	1.00	22.08	7
ATOM	336	CA	ASN	42	14.077	70.196	1.726	1.00	20.46	6
ATOM	337	CB	ASN	42	12.562	70.322	1.722	1.00	18.21	6
ATOM	338	CG	ASN	42	11.925	69.397	2.761	1.00	22.74	6
ATOM	339	OD1	ASN	42	12.473	68.343	3.087	1.00	24.40	8
ATOM	340	ND2	ASN	42	10.804	69.804	3.341	1.00	18.43	7
ATOM	341	C	ASN	42	14.733	70.811	0.488	1.00	21.32	6
ATOM	342	O	ASN	42	14.085	71.047	-0.533	1.00	20.13	8
ATOM	343	N	GLY	43	16.002	71.220	0.568	1.00	20.53	7
ATOM	344	CA	GLY	43	16.767	71.861	-0.480	1.00	20.83	6
ATOM	345	C	GLY	43	16.586	73.360	-0.661	1.00	24.51	6
ATOM	346	O	GLY	43	17.209	73.987	-1.550	1.00	25.30	8
ATOM	347	N	ASN	44	15.633	73.970	0.051	1.00	21.27	7
ATOM	348	CA	ASN	44	15.391	75.393	-0.112	1.00	20.46	6
ATOM	349	CB	ASN	44	13.903	75.734	0.000	1.00	23.82	6
ATOM	350	CG	ASN	44	13.049	74.834	-0.891	1.00	22.26	6
ATOM	351	OD1	ASN	44	12.148	74.144	-0.409	1.00	25.47	8
ATOM	352	ND2	ASN	44	13.382	74.787	-2.171	1.00	21.59	7
ATOM	353	C	ASN	44	16.208	76.143	0.937	1.00	19.78	6
ATOM	354	O	ASN	44	16.180	75.778	2.107	1.00	22.07	8
ATOM	355	N	LEU	45	16.907	77.188	0.523	1.00	22.22	7
ATOM	356	CA	LEU	45	17.730	77.962	1.459	1.00	21.67	6
ATOM	357	CB	LEU	45	18.391	79.141	0.715	1.00	28.15	6
ATOM	358	CG	LEU	45	19.159	80.171	1.538	1.00	29.14	6
ATOM	359	CD1	LEU	45	20.479	79.571	2.002	1.00	25.07	6
ATOM	360	CD2	LEU	45	19.452	81.466	0.775	1.00	28.51	6
ATOM	361	C	LEU	45	16.825	78.559	2.525	1.00	22.27	6
ATOM	362	O	LEU	45	15.748	78.997	2.118	1.00	20.13	8
ATOM	363	N	ILE	46	17.263	78.604	3.766	1.00	20.11	7
ATOM	364	CA	ILE	46	16.539	79.322	4.835	1.00	24.64	6
ATOM	365	CB	ILE	46	16.657	78.508	6.132	1.00	22.24	6
ATOM	366	CG2	ILE	46	16.007	79.134	7.358	1.00	21.33	6
ATOM	367	CG1	ILE	46	16.111	77.072	5.945	1.00	20.74	6
ATOM	368	CD1	ILE	46	16.664	76.147	7.024	1.00	20.48	6
ATOM	369	C	ILE	46	17.351	80.625	5.006	1.00	25.53	6
ATOM	370	O	ILE	46	18.419	80.600	5.624	1.00	22.91	8
ATOM	371	N	PRO	47	16.937	81.747	4.444	1.00	30.56	7
ATOM	372	CD	PRO	47	15.704	81.884	3.620	1.00	32.61	6
ATOM	373	CA	PRO	47	17.731	82.968	4.434	1.00	30.93	6

ATOM	374	CB	PRO	47	17.030	83.836	3.363	1.00	31.28	6
ATOM	375	CG	PRO	47	15.610	83.400	3.441	1.00	32.54	6
ATOM	376	C	PRO	47	17.888	83.762	5.706	1.00	28.32	6
ATOM	377	O	PRO	47	18.733	84.670	5.747	1.00	29.24	8
ATOM	378	N	THR	48	17.092	83.513	6.730	1.00	26.79	7
ATOM	379	CA	THR	48	17.135	84.298	7.971	1.00	26.97	6
ATOM	380	CB	THR	48	15.698	84.323	8.532	1.00	31.78	6
ATOM	381	OG1	THR	48	15.241	82.958	8.520	1.00	31.45	8
ATOM	382	CG2	THR	48	14.798	85.150	7.605	1.00	27.40	6
ATOM	383	C	THR	48	18.075	83.757	9.021	1.00	26.31	6
ATOM	384	O	THR	48	18.206	84.334	10.113	1.00	28.00	8
ATOM	385	N	HIS	49	18.698	82.602	8.772	1.00	24.44	7
ATOM	386	CA	HIS	49	19.612	81.942	9.707	1.00	24.19	6
ATOM	387	CB	HIS	49	18.953	80.610	10.174	1.00	25.11	6
ATOM	388	CG	HIS	49	17.722	80.939	10.961	1.00	22.20	6
ATOM	389	CD2	HIS	49	16.430	81.109	10.624	1.00	27.86	6
ATOM	390	ND1	HIS	49	17.809	81.225	12.306	1.00	29.80	7
ATOM	391	CE1	HIS	49	16.595	81.526	12.762	1.00	28.91	6
ATOM	392	NE2	HIS	49	15.748	81.474	11.761	1.00	25.35	7
ATOM	393	C	HIS	49	20.923	81.588	9.041	1.00	23.08	6
ATOM	394	O	HIS	49	20.942	80.805	8.075	1.00	20.57	8
ATOM	395	N	THR	50	22.038	82.162	9.497	1.00	25.11	7
ATOM	396	CA	THR	50	23.321	81.974	8.807	1.00	22.98	6
ATOM	397	CB	THR	50	23.732	83.314	8.137	1.00	23.01	6
ATOM	398	OG1	THR	50	23.843	84.252	9.231	1.00	18.66	8
ATOM	399	CG2	THR	50	22.757	83.817	7.101	1.00	19.07	6
ATOM	400	C	THR	50	24.460	81.645	9.766	1.00	24.61	6
ATOM	401	O	THR	50	25.640	81.772	9.393	1.00	26.17	8
ATOM	402	N	GLN	51	24.126	81.274	10.985	1.00	24.52	7
ATOM	403	CA	GLN	51	25.132	80.979	11.995	1.00	27.31	6
ATOM	404	CB	GLN	51	24.708	81.505	13.378	1.00	28.63	6
ATOM	405	CG	GLN	51	24.438	83.014	13.378	1.00	32.81	6
ATOM	406	CD	GLN	51	25.677	83.810	12.995	1.00	38.53	6
ATOM	407	OE1	GLN	51	26.606	83.952	13.802	1.00	37.60	8
ATOM	408	NE2	GLN	51	25.724	84.331	11.765	1.00	32.79	7
ATOM	409	C	GLN	51	25.411	79.487	12.101	1.00	26.69	6
ATOM	410	O	GLN	51	24.626	78.636	11.689	1.00	26.27	8
ATOM	411	N	PRO	52	26.510	79.138	12.769	1.00	25.16	7
ATOM	412	CD	PRO	52	27.553	80.091	13.270	1.00	24.54	6
ATOM	413	CA	PRO	52	26.917	77.763	12.974	1.00	25.24	6
ATOM	414	CB	PRO	52	28.264	77.888	13.708	1.00	26.09	6
ATOM	415	CG	PRO	52	28.804	79.217	13.257	1.00	23.35	6
ATOM	416	C	PRO	52	25.900	76.915	13.722	1.00	25.71	6
ATOM	417	O	PRO	52	25.877	75.687	13.542	1.00	21.61	8
ATOM	418	N	SER	53	25.044	77.497	14.556	1.00	24.05	7
ATOM	419	CA	SER	53	23.991	76.773	15.239	1.00	25.63	6
ATOM	420	CB	SER	53	24.105	76.711	16.758	1.00	31.86	6
ATOM	421	OG	SER	53	24.778	75.495	17.094	1.00	42.46	8
ATOM	422	C	SER	53	22.681	77.460	14.854	1.00	24.85	6
ATOM	423	O	SER	53	22.681	78.673	14.691	1.00	23.68	8
ATOM	424	N	TYR	54	21.658	76.689	14.614	1.00	24.52	7
ATOM	425	CA	TYR	54	20.333	77.167	14.212	1.00	26.29	6
ATOM	426	CB	TYR	54	20.050	76.886	12.729	1.00	26.92	6
ATOM	427	CG	TYR	54	18.612	76.998	12.274	1.00	30.15	6
ATOM	428	CD1	TYR	54	17.719	77.905	12.825	1.00	29.18	6
ATOM	429	CE1	TYR	54	16.407	78.006	12.409	1.00	31.26	6
ATOM	430	CD2	TYR	54	18.104	76.166	11.280	1.00	31.67	6
ATOM	431	CE2	TYR	54	16.796	76.217	10.855	1.00	31.66	6
ATOM	432	CZ	TYR	54	15.950	77.151	11.429	1.00	33.63	6
ATOM	433	OH	TYR	54	14.624	77.219	11.038	1.00	34.53	8
ATOM	434	C	TYR	54	19.378	76.450	15.167	1.00	24.84	6
ATOM	435	O	TYR	54	19.300	75.210	15.129	1.00	22.53	8
ATOM	436	N	ARG	55	18.773	77.181	16.070	1.00	21.66	7

ATOM	437	CA	ARG	55	17.864	76.650	17.070	1.00	23.60	6
ATOM	438	CB	ARG	55	18.242	77.157	18.480	1.00	25.95	6
ATOM	439	CG	ARG	55	17.478	76.340	19.551	1.00	23.98	6
ATOM	440	CD	ARG	55	17.651	76.982	20.918	1.00	35.38	6
ATOM	441	NE	ARG	55	16.821	76.365	21.956	1.00	27.47	7
ATOM	442	CZ	ARG	55	17.278	75.530	22.879	1.00	33.10	6
ATOM	443	NH1	ARG	55	18.570	75.209	22.904	1.00	30.00	7
ATOM	444	NH2	ARG	55	16.418	75.049	23.778	1.00	32.66	7
ATOM	445	C	ARG	55	16.434	77.103	16.802	1.00	27.49	6
ATOM	446	O	ARG	55	16.275	78.312	16.569	1.00	22.62	8
ATOM	447	N	PHE	56	15.455	76.174	16.781	1.00	23.78	7
ATOM	448	CA	PHE	56	14.092	76.636	16.510	1.00	21.92	6
ATOM	449	CB	PHE	56	13.716	76.495	15.036	1.00	25.99	6
ATOM	450	CG	PHE	56	13.819	75.131	14.386	1.00	20.84	6
ATOM	451	CD1	PHE	56	15.019	74.653	13.897	1.00	21.33	6
ATOM	452	CD2	PHE	56	12.705	74.319	14.264	1.00	20.31	6
ATOM	453	CE1	PHE	56	15.103	73.415	13.283	1.00	21.52	6
ATOM	454	CE2	PHE	56	12.768	73.077	13.680	1.00	18.36	6
ATOM	455	CZ	PHE	56	13.973	72.616	13.159	1.00	18.38	6
ATOM	456	C	PHE	56	13.095	75.862	17.372	1.00	23.93	6
ATOM	457	O	PHE	56	13.454	74.833	17.921	1.00	22.42	8
ATOM	458	N	LYS	57	11.865	76.340	17.423	1.00	22.46	7
ATOM	459	CA	LYS	57	10.735	75.659	18.054	1.00	24.34	6
ATOM	460	CBA	LYS	57	9.892	76.620	18.881	0.50	28.51	6
ATOM	461	CBB	LYS	57	9.822	76.727	18.669	0.50	22.87	6
ATOM	462	CGA	LYS	57	10.656	77.298	20.010	0.50	33.64	6
ATOM	463	CGB	LYS	57	8.769	76.208	19.632	0.50	24.29	6
ATOM	464	CDA	LYS	57	11.436	76.342	20.892	0.50	40.75	6
ATOM	465	CDB	LYS	57	8.631	77.186	20.798	0.50	26.90	6
ATOM	466	CEA	LYS	57	12.612	76.990	21.603	0.50	43.07	6
ATOM	467	CEB	LYS	57	9.138	76.604	22.092	0.50	29.79	6
ATOM	468	NZA	LYS	57	12.703	76.630	23.044	0.50	51.71	7
ATOM	469	NZB	LYS	57	8.050	76.265	23.060	0.50	36.22	7
ATOM	470	C	LYS	57	9.950	74.923	16.969	1.00	21.30	6
ATOM	471	O	LYS	57	9.436	75.551	16.052	1.00	19.46	8
ATOM	472	N	ALA	58	9.928	73.588	16.945	1.00	18.23	7
ATOM	473	CA	ALA	58	9.341	72.864	15.821	1.00	15.74	6
ATOM	474	CB	ALA	58	9.612	71.361	16.094	1.00	9.09	6
ATOM	475	C	ALA	58	7.841	73.034	15.614	1.00	20.26	6
ATOM	476	O	ALA	58	7.067	73.064	16.574	1.00	18.04	8
ATOM	477	N	ASN	59	7.392	73.126	14.367	1.00	18.31	7
ATOM	478	CA	ASN	59	5.986	73.071	14.019	1.00	23.04	6
ATOM	479	CB	ASN	59	5.222	74.301	13.612	1.00	32.39	6
ATOM	480	CG	ASN	59	5.880	75.643	13.665	1.00	38.26	6
ATOM	481	OD1	ASN	59	5.855	76.279	14.716	1.00	42.50	8
ATOM	482	ND2	ASN	59	6.426	76.066	12.529	1.00	43.39	7
ATOM	483	C	ASN	59	5.825	72.052	12.867	1.00	24.07	6
ATOM	484	O	ASN	59	6.794	71.476	12.365	1.00	21.25	8
ATOM	485	N	ASN	60	4.582	71.833	12.484	1.00	24.40	7
ATOM	486	CA	ASN	60	4.192	70.823	11.519	1.00	31.47	6
ATOM	487	CB	ASN	60	2.680	70.893	11.234	1.00	31.46	6
ATOM	488	CGA	ASN	60	2.272	69.776	10.274	0.50	31.26	6
ATOM	489	CGB	ASN	60	2.221	72.272	10.814	0.50	35.72	6
ATOM	490	OD1	ASN	60	2.337	68.582	10.597	0.50	22.52	8
ATOM	491	OD1	ASN	60	2.985	73.240	10.768	0.50	33.04	8
ATOM	492	ND2	ASN	60	1.863	70.175	9.070	0.50	26.04	7
ATOM	493	ND2	ASN	60	0.932	72.391	10.483	0.50	39.47	7
ATOM	494	C	ASN	60	5.006	70.943	10.234	1.00	29.05	6
ATOM	495	O	ASN	60	5.645	69.986	9.780	1.00	32.27	8
ATOM	496	N	ASN	61	5.098	72.153	9.710	1.00	30.20	7
ATOM	497	CAA	ASN	61	5.863	72.487	8.529	0.50	28.68	6
ATOM	498	CAB	ASN	61	5.857	72.367	8.477	0.50	29.13	6
ATOM	499	CBA	ASN	61	5.564	73.955	8.150	0.50	26.19	6

ATOM	500	CBB	ASN	61	5.403	73.671	7.806	0.50	30.25	6
ATOM	501	CGA	ASN	61	4.101	74.127	7.792	0.50	27.01	6
ATOM	502	CGB	ASN	61	5.608	74.882	8.678	0.50	32.36	6
ATOM	503	OD1	ASN	61	3.502	75.125	8.184	0.50	28.58	8
ATOM	504	OD1	ASN	61	6.383	74.820	9.637	0.50	33.38	8
ATOM	505	ND2	ASN	61	3.526	73.172	7.071	0.50	34.39	7
ATOM	506	ND2	ASN	61	4.927	75.991	8.384	0.50	33.52	7
ATOM	507	C	ASN	61	7.371	72.336	8.628	1.00	25.33	6
ATOM	508	O	ASN	61	8.030	72.535	7.617	1.00	21.46	8
ATOM	509	N	ASP	62	7.932	71.978	9.767	1.00	24.89	7
ATOM	510	CA	ASP	62	9.373	71.842	9.941	1.00	21.37	6
ATOM	511	CB	ASP	62	9.749	72.284	11.372	1.00	16.89	6
ATOM	512	CG	ASP	62	9.620	73.782	11.538	1.00	26.20	6
ATOM	513	OD1	ASP	62	9.824	74.549	10.570	1.00	20.81	8
ATOM	514	OD2	ASP	62	9.276	74.273	12.611	1.00	17.90	8
ATOM	515	C	ASP	62	9.887	70.439	9.645	1.00	18.69	6
ATOM	516	O	ASP	62	11.104	70.209	9.654	1.00	20.50	8
ATOM	517	N	SER	63	9.011	69.477	9.394	1.00	19.81	7
ATOM	518	CA	SER	63	9.434	68.132	9.015	1.00	19.84	6
ATOM	519	CB	SER	63	8.268	67.164	8.811	1.00	22.04	6
ATOM	520	OG	SER	63	7.506	67.018	10.009	1.00	20.02	8
ATOM	521	C	SER	63	10.196	68.204	7.682	1.00	23.89	6
ATOM	522	O	SER	63	10.015	69.160	6.911	1.00	17.92	8
ATOM	523	N	GLY	64	11.056	67.195	7.467	1.00	19.50	7
ATOM	524	CA	GLY	64	11.769	67.191	6.190	1.00	22.23	6
ATOM	525	C	GLY	64	13.272	66.965	6.340	1.00	19.81	6
ATOM	526	O	GLY	64	13.744	66.564	7.399	1.00	18.93	8
ATOM	527	N	GLU	65	13.980	67.226	5.238	1.00	17.01	7
ATOM	528	CA	GLU	65	15.428	67.013	5.269	1.00	21.39	6
ATOM	529	CBA	GLU	65	15.934	66.562	3.901	0.50	13.64	6
ATOM	530	CBB	GLU	65	15.933	66.446	3.947	0.50	23.81	6
ATOM	531	CGA	GLU	65	16.507	65.158	3.813	0.50	15.71	6
ATOM	532	CGB	GLU	65	15.409	65.059	3.602	0.50	32.15	6
ATOM	533	CDA	GLU	65	16.656	64.679	2.381	0.50	22.33	6
ATOM	534	CDB	GLU	65	15.898	63.965	4.520	0.50	40.56	6
ATOM	535	OE1	GLU	65	17.428	65.263	1.586	0.50	22.70	8
ATOM	536	OE1	GLU	65	16.578	64.271	5.525	0.50	41.83	8
ATOM	537	OE2	GLU	65	15.991	63.686	2.014	0.50	31.04	8
ATOM	538	OE2	GLU	65	15.624	62.758	4.278	0.50	46.02	8
ATOM	539	C	GLU	65	16.155	68.324	5.593	1.00	21.56	6
ATOM	540	O	GLU	65	15.756	69.325	5.007	1.00	21.41	8
ATOM	541	N	TYR	66	17.172	68.268	6.458	1.00	21.38	7
ATOM	542	CA	TYR	66	17.966	69.483	6.691	1.00	17.91	6
ATOM	543	CB	TYR	66	17.954	69.984	8.129	1.00	17.39	6
ATOM	544	CG	TYR	66	16.620	70.563	8.534	1.00	18.08	6
ATOM	545	CD1	TYR	66	15.605	69.686	8.957	1.00	18.56	6
ATOM	546	CE1	TYR	66	14.369	70.147	9.323	1.00	16.48	6
ATOM	547	CD2	TYR	66	16.348	71.921	8.485	1.00	18.23	6
ATOM	548	CE2	TYR	66	15.102	72.382	8.867	1.00	18.37	6
ATOM	549	CZ	TYR	66	14.124	71.516	9.279	1.00	18.98	6
ATOM	550	OH	TYR	66	12.872	71.939	9.624	1.00	14.14	8
ATOM	551	C	TYR	66	19.379	69.231	6.212	1.00	13.96	6
ATOM	552	O	TYR	66	19.923	68.135	6.353	1.00	18.14	8
ATOM	553	N	THR	67	20.010	70.228	5.568	1.00	17.95	7
ATOM	554	CA	THR	67	21.374	70.138	5.117	1.00	18.06	6
ATOM	555	CB	THR	67	21.514	69.844	3.599	1.00	22.52	6
ATOM	556	OG1	THR	67	20.669	70.737	2.835	1.00	16.85	8
ATOM	557	CG2	THR	67	21.215	68.371	3.309	1.00	17.46	6
ATOM	558	C	THR	67	22.044	71.508	5.384	1.00	18.76	6
ATOM	559	O	THR	67	21.354	72.515	5.567	1.00	17.47	8
ATOM	560	N	CYS	68	23.354	71.540	5.389	1.00	19.74	7
ATOM	561	CA	CYS	68	24.099	72.792	5.597	1.00	23.50	6
ATOM	562	C	CYS	68	25.382	72.759	4.758	1.00	23.12	6

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ATOM    563  O   CYS   68      25.791  71.712   4.279  1.00 25.07    8
ATOM    564  CB  CYS   68      24.434  73.082   7.055  1.00 18.70    6
ATOM    565  SG  CYS   68      25.675  71.985   7.798  1.00 23.45   16
ATOM    566  N   GLN   69      25.975  73.920   4.534  1.00 24.47    7
ATOM    567  CA  GLN   69      27.174  74.121   3.770  1.00 24.99    6
ATOM    568  CB  GLN   69      26.909  74.344   2.264  1.00 27.22    6
ATOM    569  CG  GLN   69      28.155  74.057   1.419  1.00 25.14    6
ATOM    570  CD  GLN   69      27.857  74.022  -0.065  1.00 32.43    6
ATOM    571  OE1 GLN   69      26.710  74.166  -0.487  1.00 31.34    8
ATOM    572  NE2 GLN   69      28.896  73.814  -0.874  1.00 27.89    7
ATOM    573  C   GLN   69      27.901  75.383   4.266  1.00 27.60    6
ATOM    574  O   GLN   69      27.289  76.352   4.734  1.00 25.37    8
ATOM    575  N   THR   70      29.206  75.318   4.115  1.00 28.73    7
ATOM    576  CA  THR   70      30.059  76.465   4.439  1.00 32.10    6
ATOM    577  CB  THR   70      31.125  76.153   5.491  1.00 33.36    6
ATOM    578  OG1 THR   70      30.619  75.311   6.553  1.00 45.26    8
ATOM    579  CG2 THR   70      31.453  77.444   6.210  1.00 50.20    6
ATOM    580  C   THR   70      30.737  76.890   3.138  1.00 32.77    6
ATOM    581  O   THR   70      30.680  76.170   2.130  1.00 30.75    8
ATOM    582  N   GLY   71      31.472  78.007   3.175  1.00 31.83    7
ATOM    583  CA  GLY   71      32.224  78.469   2.033  1.00 27.97    6
ATOM    584  C   GLY   71      33.376  77.544   1.690  1.00 29.94    6
ATOM    585  O   GLY   71      33.938  77.668   0.596  1.00 32.37    8
ATOM    586  N   GLN   72      33.842  76.707   2.594  1.00 24.86    7
ATOM    587  CA  GLN   72      34.920  75.779   2.457  1.00 27.14    6
ATOM    588  CB  GLN   72      35.868  75.974   3.667  1.00 27.31    6
ATOM    589  CG  GLN   72      36.291  77.451   3.825  1.00 30.51    6
ATOM    590  CD  GLN   72      36.961  77.995   2.567  1.00 30.53    6
ATOM    591  OE1 GLN   72      37.981  77.441   2.161  1.00 39.95    8
ATOM    592  NE2 GLN   72      36.402  79.014   1.944  1.00 31.16    7
ATOM    593  C   GLN   72      34.530  74.305   2.441  1.00 29.60    6
ATOM    594  O   GLN   72      35.419  73.442   2.578  1.00 30.82    8
ATOM    595  N   THR   73      33.248  73.954   2.380  1.00 25.83    7
ATOM    596  CA  THR   73      32.861  72.549   2.426  1.00 26.62    6
ATOM    597  CB  THR   73      32.278  72.135   3.792  1.00 26.64    6
ATOM    598  OG1 THR   73      31.226  73.051   4.138  1.00 27.54    8
ATOM    599  CG2 THR   73      33.313  72.124   4.897  1.00 28.16    6
ATOM    600  C   THR   73      31.824  72.223   1.371  1.00 26.31    6
ATOM    601  O   THR   73      31.210  73.110   0.776  1.00 28.00    8
ATOM    602  N   SER   74      31.685  70.927   1.074  1.00 28.62    7
ATOM    603  CA  SER   74      30.592  70.605   0.112  1.00 29.44    6
ATOM    604  CB  SER   74      31.020  69.470  -0.803  1.00 30.45    6
ATOM    605  OG  SER   74      31.407  68.399   0.034  1.00 41.05    8
ATOM    606  C   SER   74      29.366  70.395   0.992  1.00 26.65    6
ATOM    607  O   SER   74      29.461  70.438   2.228  1.00 25.57    8
ATOM    608  N   LEU   75      28.178  70.281   0.442  1.00 29.47    7
ATOM    609  CA  LEU   75      26.915  70.163   1.158  1.00 25.10    6
ATOM    610  CB  LEU   75      25.749  70.141   0.159  1.00 27.83    6
ATOM    611  CG  LEU   75      24.348  70.136   0.777  1.00 27.24    6
ATOM    612  CD1 LEU   75      23.888  71.554   1.094  1.00 24.13    6
ATOM    613  CD2 LEU   75      23.349  69.420  -0.133  1.00 24.42    6
ATOM    614  C   LEU   75      26.884  68.973   2.087  1.00 25.84    6
ATOM    615  O   LEU   75      27.300  67.858   1.711  1.00 22.45    8
ATOM    616  N   SER   76      26.376  69.158   3.315  1.00 23.31    7
ATOM    617  CA  SER   76      26.357  68.009   4.219  1.00 25.20    6
ATOM    618  CB  SER   76      25.916  68.402   5.644  1.00 26.64    6
ATOM    619  OG  SER   76      24.514  68.663   5.624  1.00 29.43    8
ATOM    620  C   SER   76      25.346  66.955   3.738  1.00 23.00    6
ATOM    621  O   SER   76      24.431  67.304   3.006  1.00 21.02    8
ATOM    622  N   ASP   77      25.506  65.739   4.241  1.00 22.24    7
ATOM    623  CA  ASP   77      24.493  64.712   4.094  1.00 26.03    6
ATOM    624  CB  ASP   77      24.907  63.362   4.683  1.00 20.27    6
ATOM    625  CG  ASP   77      25.914  62.676   3.758  1.00 25.73    6
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ATOM    626  OD1 ASP    77      25.821  62.893   2.541  1.00 23.79    8
ATOM    627  OD2 ASP    77      26.769  61.954   4.292  1.00 28.92    8
ATOM    628  C   ASP    77      23.267  65.191   4.929  1.00 25.85    6
ATOM    629  O   ASP    77      23.423  65.904   5.914  1.00 24.00    8
ATOM    630  N   PRO    78      22.098  64.758   4.492  1.00 27.37    7
ATOM    631  CD  PRO    78      21.917  63.917   3.275  1.00 26.84    6
ATOM    632  CA  PRO    78      20.849  65.130   5.098  1.00 25.42    6
ATOM    633  CB  PRO    78      19.795  64.592   4.141  1.00 28.38    6
ATOM    634  CG  PRO    78      20.453  63.586   3.272  1.00 27.24    6
ATOM    635  C   PRO    78      20.575  64.556   6.479  1.00 25.28    6
ATOM    636  O   PRO    78      21.006  63.459   6.820  1.00 23.68    8
ATOM    637  N   VAL    79      19.833  65.331   7.265  1.00 20.24    7
ATOM    638  CA  VAL    79      19.287  64.861   8.535  1.00 18.86    6
ATOM    639  CB  VAL    79      19.850  65.516   9.783  1.00 19.49    6
ATOM    640  CG1 VAL    79      19.042  65.239  11.046  1.00 22.25    6
ATOM    641  CG2 VAL    79      21.275  64.959  10.036  1.00 21.95    6
ATOM    642  C   VAL    79      17.777  65.046   8.399  1.00 19.76    6
ATOM    643  O   VAL    79      17.283  66.130   8.076  1.00 22.34    8
ATOM    644  N   HIS    80      17.024  63.955   8.566  1.00 19.43    7
ATOM    645  CA  HIS    80      15.584  63.976   8.387  1.00 18.11    6
ATOM    646  CB  HIS    80      15.130  62.621   7.784  1.00 26.87    6
ATOM    647  CG  HIS    80      13.712  62.754   7.293  1.00 31.93    6
ATOM    648  CD2 HIS    80      13.194  62.983   6.069  1.00 27.05    6
ATOM    649  ND1 HIS    80      12.637  62.697   8.176  1.00 34.35    7
ATOM    650  CE1 HIS    80      11.525  62.847   7.480  1.00 34.80    6
ATOM    651  NE2 HIS    80      11.831  63.016   6.210  1.00 34.81    7
ATOM    652  C   HIS    80      14.865  64.187   9.718  1.00 23.08    6
ATOM    653  O   HIS    80      15.096  63.496  10.709  1.00 23.37    8
ATOM    654  N   LEU    81      13.953  65.138   9.747  1.00 19.18    7
ATOM    655  CA  LEU    81      13.244  65.478  10.957  1.00 21.58    6
ATOM    656  CB  LEU    81      13.567  66.937  11.331  1.00 18.20    6
ATOM    657  CG  LEU    81      12.847  67.381  12.605  1.00 18.21    6
ATOM    658  CD1 LEU    81      13.496  66.708  13.812  1.00 19.39    6
ATOM    659  CD2 LEU    81      12.865  68.912  12.696  1.00 14.76    6
ATOM    660  C   LEU    81      11.747  65.255  10.783  1.00 19.36    6
ATOM    661  O   LEU    81      11.225  65.543   9.720  1.00 20.96    8
ATOM    662  N   THR    82      11.100  64.689  11.793  1.00 19.61    7
ATOM    663  CA  THR    82       9.642  64.463  11.680  1.00 18.45    6
ATOM    664  CB  THR    82       9.316  62.950  11.683  1.00 25.98    6
ATOM    665  OG1 THR    82       9.907  62.351  10.527  1.00 18.89    8
ATOM    666  CG2 THR    82       7.795  62.775  11.666  1.00 24.98    6
ATOM    667  C   THR    82       8.971  65.100  12.891  1.00 16.02    6
ATOM    668  O   THR    82       9.248  64.735  14.035  1.00 14.79    8
ATOM    669  N   VAL    83       8.075  66.045  12.647  1.00 16.23    7
ATOM    670  CA  VAL    83       7.451  66.758  13.753  1.00 16.97    6
ATOM    671  CB  VAL    83       7.559  68.282  13.530  1.00 12.81    6
ATOM    672  CG1 VAL    83       7.051  68.972  14.799  1.00 15.92    6
ATOM    673  CG2 VAL    83       8.986  68.760  13.246  1.00 11.78    6
ATOM    674  C   VAL    83       6.020  66.264  13.892  1.00 19.97    6
ATOM    675  O   VAL    83       5.261  66.329  12.918  1.00 18.57    8
ATOM    676  N   LEU    84       5.686  65.756  15.075  1.00 16.89    7
ATOM    677  CA  LEU    84       4.372  65.188  15.312  1.00 19.89    6
ATOM    678  CB  LEU    84       4.621  63.786  15.890  1.00 18.15    6
ATOM    679  CG  LEU    84       5.491  62.863  15.021  1.00 23.40    6
ATOM    680  CD1 LEU    84       5.927  61.690  15.868  1.00 25.20    6
ATOM    681  CD2 LEU    84       4.752  62.396  13.758  1.00 20.46    6
ATOM    682  C   LEU    84       3.487  66.016  16.228  1.00 22.29    6
ATOM    683  O   LEU    84       3.928  66.891  16.975  1.00 23.90    8
ATOM    684  N   PHE    85       2.189  65.750  16.218  1.00 21.03    7
ATOM    685  CA  PHE    85       1.254  66.444  17.111  1.00 22.92    6
ATOM    686  CB  PHE    85       0.399  67.431  16.333  1.00 21.76    6
ATOM    687  CG  PHE    85      -0.440  68.350  17.184  1.00 27.90    6
ATOM    688  CD1 PHE    85       0.103  69.013  18.266  1.00 28.30    6
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ATOM	689	CD2	PHE	85	-1.787	68.533	16.899	1.00	26.61	6
ATOM	690	CE1	PHE	85	-0.664	69.874	19.040	1.00	29.65	6
ATOM	691	CE2	PHE	85	-2.559	69.386	17.668	1.00	25.61	6
ATOM	692	CZ	PHE	85	-1.996	70.047	18.733	1.00	28.75	6
ATOM	693	C	PHE	85	0.455	65.399	17.852	1.00	21.99	6
ATOM	694	O	PHE	85	-0.642	65.000	17.426	1.00	22.11	8
ATOM	695	N	GLU	86	1.023	64.883	18.938	1.00	20.76	7
ATOM	696	CA	GLU	86	0.421	63.762	19.702	1.00	18.04	6
ATOM	697	CB	GLU	86	1.142	62.463	19.210	1.00	20.84	6
ATOM	698	CG	GLU	86	0.711	61.815	17.911	1.00	25.05	6
ATOM	699	CD	GLU	86	1.647	61.048	17.019	1.00	41.96	6
ATOM	700	OE1	GLU	86	2.719	60.507	17.416	1.00	46.14	8
ATOM	701	OE2	GLU	86	1.429	60.893	15.765	1.00	40.77	8
ATOM	702	C	GLU	86	0.694	64.026	21.176	1.00	18.46	6
ATOM	703	O	GLU	86	1.588	64.839	21.462	1.00	16.67	8
ATOM	704	N	TRP	87	0.031	63.408	22.156	1.00	12.60	7
ATOM	705	CA	TRP	87	0.328	63.631	23.553	1.00	13.01	6
ATOM	706	CB	TRP	87	-0.808	63.056	24.411	1.00	18.40	6
ATOM	707	CG	TRP	87	-1.922	64.023	24.687	1.00	21.87	6
ATOM	708	CD2	TRP	87	-1.812	65.176	25.521	1.00	21.14	6
ATOM	709	CE2	TRP	87	-3.065	65.805	25.526	1.00	24.31	6
ATOM	710	CE3	TRP	87	-0.767	65.738	26.255	1.00	24.84	6
ATOM	711	CD1	TRP	87	-3.216	63.985	24.231	1.00	22.52	6
ATOM	712	NE1	TRP	87	-3.907	65.069	24.734	1.00	22.53	7
ATOM	713	CZ2	TRP	87	-3.303	66.966	26.266	1.00	29.91	6
ATOM	714	CZ3	TRP	87	-0.998	66.890	26.987	1.00	29.83	6
ATOM	715	CH2	TRP	87	-2.254	67.499	26.970	1.00	29.09	6
ATOM	716	C	TRP	87	1.599	62.967	24.068	1.00	15.44	6
ATOM	717	O	TRP	87	2.178	63.499	25.018	1.00	16.68	8
ATOM	718	N	LEU	88	2.036	61.873	23.447	1.00	14.44	7
ATOM	719	CA	LEU	88	3.153	61.051	23.861	1.00	20.07	6
ATOM	720	CB	LEU	88	2.596	59.942	24.783	1.00	17.49	6
ATOM	721	CG	LEU	88	3.608	59.303	25.769	1.00	16.97	6
ATOM	722	CD1	LEU	88	4.062	60.299	26.830	1.00	17.38	6
ATOM	723	CD2	LEU	88	2.987	58.053	26.370	1.00	13.93	6
ATOM	724	C	LEU	88	3.889	60.399	22.677	1.00	20.44	6
ATOM	725	O	LEU	88	3.255	59.857	21.752	1.00	19.65	8
ATOM	726	N	VAL	89	5.218	60.517	22.620	1.00	18.11	7
ATOM	727	CA	VAL	89	5.998	59.926	21.542	1.00	14.66	6
ATOM	728	CBA	VAL	89	6.686	61.029	20.699	0.50	7.52	6
ATOM	729	CBB	VAL	89	6.677	60.941	20.604	0.50	13.86	6
ATOM	730	CG1	VAL	89	7.573	61.890	21.597	0.50	7.13	6
ATOM	731	CG1	VAL	89	5.696	61.409	19.543	0.50	15.87	6
ATOM	732	CG2	VAL	89	7.501	60.486	19.531	0.50	3.91	6
ATOM	733	CG2	VAL	89	7.264	62.090	21.402	0.50	18.65	6
ATOM	734	C	VAL	89	7.109	59.032	22.107	1.00	15.71	6
ATOM	735	O	VAL	89	7.689	59.262	23.179	1.00	14.52	8
ATOM	736	N	LEU	90	7.379	57.958	21.386	1.00	15.13	7
ATOM	737	CA	LEU	90	8.520	57.133	21.703	1.00	13.72	6
ATOM	738	CB	LEU	90	8.287	55.625	21.488	1.00	17.87	6
ATOM	739	CG	LEU	90	9.650	54.978	21.873	1.00	26.07	6
ATOM	740	CD1	LEU	90	9.479	54.066	23.036	1.00	30.57	6
ATOM	741	CD2	LEU	90	10.373	54.463	20.662	1.00	25.07	6
ATOM	742	C	LEU	90	9.657	57.674	20.803	1.00	17.58	6
ATOM	743	O	LEU	90	9.611	57.517	19.576	1.00	14.46	8
ATOM	744	N	GLN	91	10.673	58.298	21.412	1.00	15.83	7
ATOM	745	CA	GLN	91	11.745	58.908	20.623	1.00	17.70	6
ATOM	746	CB	GLN	91	12.252	60.238	21.264	1.00	15.03	6
ATOM	747	CG	GLN	91	11.105	61.231	21.472	1.00	12.81	6
ATOM	748	CD	GLN	91	11.564	62.636	21.868	1.00	15.79	6
ATOM	749	OE1	GLN	91	12.023	62.823	22.988	1.00	14.61	8
ATOM	750	NE2	GLN	91	11.409	63.610	20.984	1.00	16.27	7
ATOM	751	C	GLN	91	12.971	58.042	20.375	1.00	17.71	6

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ATOM    752  O   GLN    91      13.370  57.296  21.268  1.00 19.37    8
ATOM    753  N   THR    92      13.607  58.207  19.218  1.00 14.05    7
ATOM    754  CA  THR    92      14.853  57.488  18.934  1.00 19.01    6
ATOM    755  CB  THR    92      14.562  56.225  18.089  1.00 16.40    6
ATOM    756  OG1 THR    92      15.769  55.485  17.905  1.00 18.39    8
ATOM    757  CG2 THR    92      13.943  56.499  16.720  1.00 10.45    6
ATOM    758  C   THR    92      15.803  58.416  18.173  1.00 18.96    6
ATOM    759  O   THR    92      15.339  59.272  17.409  1.00 21.88    8
ATOM    760  N   PRO    93      17.095  58.153  18.251  1.00 18.78    7
ATOM    761  CD  PRO    93      17.747  57.169  19.135  1.00 22.16    6
ATOM    762  CA  PRO    93      18.090  58.929  17.530  1.00 24.37    6
ATOM    763  CB  PRO    93      19.352  58.803  18.371  1.00 24.99    6
ATOM    764  CG  PRO    93      19.162  57.609  19.235  1.00 26.05    6
ATOM    765  C   PRO    93      18.285  58.362  16.138  1.00 27.02    6
ATOM    766  O   PRO    93      18.852  59.019  15.248  1.00 27.04    8
ATOM    767  N   HIS    94      17.978  57.069  15.960  1.00 24.22    7
ATOM    768  CA  HIS    94      18.114  56.421  14.651  1.00 25.72    6
ATOM    769  CB  HIS    94      19.444  55.690  14.439  1.00 20.09    6
ATOM    770  CG  HIS    94      20.639  56.587  14.595  1.00 21.67    6
ATOM    771  CD2 HIS    94      21.161  57.530  13.798  1.00 23.30    6
ATOM    772  ND1 HIS    94      21.380  56.595  15.754  1.00 27.49    7
ATOM    773  CE1 HIS    94      22.338  57.501  15.657  1.00 26.54    6
ATOM    774  NE2 HIS    94      22.211  58.078  14.482  1.00 32.10    7
ATOM    775  C   HIS    94      17.038  55.350  14.453  1.00 24.49    6
ATOM    776  O   HIS    94      16.481  54.838  15.429  1.00 24.01    8
ATOM    777  N   LEU    95      16.847  54.929  13.214  1.00 21.96    7
ATOM    778  CA  LEU    95      15.900  53.847  12.960  1.00 26.06    6
ATOM    779  CB  LEU    95      15.014  54.118  11.741  1.00 26.66    6
ATOM    780  CG  LEU    95      13.994  55.248  11.899  1.00 35.19    6
ATOM    781  CD1 LEU    95      13.449  55.601  10.525  1.00 25.66    6
ATOM    782  CD2 LEU    95      12.895  54.908  12.900  1.00 24.13    6
ATOM    783  C   LEU    95      16.626  52.525  12.720  1.00 26.30    6
ATOM    784  O   LEU    95      15.999  51.464  12.790  1.00 26.83    8
ATOM    785  N   GLU    96      17.884  52.601  12.326  1.00 25.44    7
ATOM    786  CA  GLU    96      18.688  51.413  12.087  1.00 28.55    6
ATOM    787  CB  GLU    96      19.062  51.144  10.634  1.00 28.97    6
ATOM    788  CG  GLU    96      17.977  51.334   9.605  1.00 34.46    6
ATOM    789  CD  GLU    96      18.414  51.109   8.168  1.00 42.07    6
ATOM    790  OE1 GLU    96      19.560  50.709   7.882  1.00 41.53    8
ATOM    791  OE2 GLU    96      17.592  51.343   7.256  1.00 45.31    8
ATOM    792  C   GLU    96      19.995  51.575  12.885  1.00 32.22    6
ATOM    793  O   GLU    96      20.525  52.686  13.015  1.00 31.68    8
ATOM    794  N   PHE    97      20.396  50.487  13.538  1.00 29.38    7
ATOM    795  CA  PHE    97      21.622  50.447  14.315  1.00 31.45    6
ATOM    796  CB  PHE    97      21.388  50.351  15.832  1.00 29.88    6
ATOM    797  CG  PHE    97      20.640  51.497  16.464  1.00 28.91    6
ATOM    798  CD1 PHE    97      19.256  51.580  16.386  1.00 19.88    6
ATOM    799  CD2 PHE    97      21.311  52.503  17.131  1.00 27.06    6
ATOM    800  CE1 PHE    97      18.557  52.624  16.971  1.00 23.29    6
ATOM    801  CE2 PHE    97      20.622  53.545  17.719  1.00 23.27    6
ATOM    802  CZ  PHE    97      19.244  53.626  17.636  1.00 25.87    6
ATOM    803  C   PHE    97      22.455  49.233  13.861  1.00 31.11    6
ATOM    804  O   PHE    97      22.007  48.334  13.164  1.00 32.31    8
ATOM    805  N   GLN    98      23.726  49.213  14.219  1.00 34.14    7
ATOM    806  CA  GLN    98      24.636  48.131  13.939  1.00 33.31    6
ATOM    807  CB  GLN    98      26.042  48.629  13.635  1.00 38.15    6
ATOM    808  CG  GLN    98      26.207  49.422  12.356  1.00 45.65    6
ATOM    809  CD  GLN    98      25.763  48.712  11.097  1.00 49.99    6
ATOM    810  OE1 GLN    98      26.455  47.828  10.589  1.00 52.58    8
ATOM    811  NE2 GLN    98      24.603  49.088  10.563  1.00 53.06    7
ATOM    812  C   GLN    98      24.662  47.218  15.172  1.00 31.48    6
ATOM    813  O   GLN    98      24.459  47.664  16.300  1.00 27.98    8
ATOM    814  N   GLU    99      24.990  45.955  14.920  1.00 30.75    7
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ATOM	815	CA	GLU	99	25.112	44.978	16.009	1.00	32.56	6
ATOM	816	CB	GLU	99	25.598	43.653	15.420	1.00	36.89	6
ATOM	817	CG	GLU	99	25.204	42.392	16.141	1.00	44.86	6
ATOM	818	CD	GLU	99	24.771	41.288	15.184	1.00	48.45	6
ATOM	819	OE1	GLU	99	23.802	40.573	15.521	1.00	53.90	8
ATOM	820	OE2	GLU	99	25.400	41.148	14.118	1.00	50.56	8
ATOM	821	C	GLU	99	26.130	45.551	16.980	1.00	31.14	6
ATOM	822	O	GLU	99	27.136	46.048	16.475	1.00	31.94	8
ATOM	823	N	GLY	100	25.919	45.571	18.275	1.00	32.19	7
ATOM	824	CA	GLY	100	26.874	46.123	19.217	1.00	31.10	6
ATOM	825	C	GLY	100	26.643	47.541	19.696	1.00	31.51	6
ATOM	826	O	GLY	100	27.082	47.931	20.789	1.00	30.30	8
ATOM	827	N	GLU	101	25.948	48.369	18.921	1.00	34.41	7
ATOM	828	CA	GLU	101	25.675	49.746	19.297	1.00	34.07	6
ATOM	829	CB	GLU	101	24.949	50.452	18.148	1.00	37.86	6
ATOM	830	CG	GLU	101	25.777	50.676	16.889	1.00	48.38	6
ATOM	831	CD	GLU	101	24.984	51.520	15.895	1.00	49.17	6
ATOM	832	OE1	GLU	101	24.251	52.408	16.385	1.00	58.51	8
ATOM	833	OE2	GLU	101	25.046	51.333	14.669	1.00	48.56	8
ATOM	834	C	GLU	101	24.783	49.848	20.537	1.00	33.06	6
ATOM	835	O	GLU	101	24.086	48.888	20.886	1.00	27.70	8
ATOM	836	N	THR	102	24.747	51.057	21.107	1.00	31.92	7
ATOM	837	CA	THR	102	23.870	51.303	22.248	1.00	32.85	6
ATOM	838	CB	THR	102	24.508	52.161	23.341	1.00	35.75	6
ATOM	839	OG1	THR	102	25.546	51.438	24.021	1.00	36.79	8
ATOM	840	CG2	THR	102	23.532	52.577	24.441	1.00	35.82	6
ATOM	841	C	THR	102	22.582	51.944	21.721	1.00	32.54	6
ATOM	842	O	THR	102	22.650	52.932	20.991	1.00	30.03	8
ATOM	843	N	ILE	103	21.431	51.329	22.014	1.00	28.53	7
ATOM	844	CA	ILE	103	20.162	51.939	21.590	1.00	25.40	6
ATOM	845	CB	ILE	103	19.131	50.873	21.163	1.00	26.58	6
ATOM	846	CG2	ILE	103	17.776	51.496	20.828	1.00	25.47	6
ATOM	847	CG1	ILE	103	19.669	50.080	19.971	1.00	21.79	6
ATOM	848	CD1	ILE	103	18.739	49.003	19.438	1.00	19.73	6
ATOM	849	C	ILE	103	19.624	52.753	22.767	1.00	25.27	6
ATOM	850	O	ILE	103	19.439	52.181	23.853	1.00	23.06	8
ATOM	851	N	MET	104	19.443	54.059	22.591	1.00	24.90	7
ATOM	852	CA	MET	104	18.893	54.913	23.639	1.00	21.55	6
ATOM	853	CB	MET	104	19.797	56.097	23.963	1.00	33.48	6
ATOM	854	CG	MET	104	20.810	55.826	25.101	1.00	29.68	6
ATOM	855	SD	MET	104	21.940	57.256	25.242	1.00	46.02	16
ATOM	856	CE	MET	104	22.667	57.216	23.589	1.00	31.10	6
ATOM	857	C	MET	104	17.528	55.456	23.215	1.00	21.27	6
ATOM	858	O	MET	104	17.374	55.991	22.106	1.00	22.96	8
ATOM	859	N	LEU	105	16.503	55.242	24.027	1.00	20.55	7
ATOM	860	CA	LEU	105	15.134	55.668	23.728	1.00	22.33	6
ATOM	861	CB	LEU	105	14.192	54.450	23.550	1.00	14.66	6
ATOM	862	CG	LEU	105	14.713	53.389	22.561	1.00	18.89	6
ATOM	863	CD1	LEU	105	13.796	52.178	22.489	1.00	19.44	6
ATOM	864	CD2	LEU	105	14.882	54.056	21.186	1.00	18.70	6
ATOM	865	C	LEU	105	14.567	56.559	24.817	1.00	20.15	6
ATOM	866	O	LEU	105	15.050	56.506	25.950	1.00	18.39	8
ATOM	867	N	ARG	106	13.523	57.324	24.483	1.00	18.25	7
ATOM	868	CA	ARG	106	12.912	58.174	25.516	1.00	17.87	6
ATOM	869	CB	ARG	106	13.607	59.553	25.508	1.00	14.96	6
ATOM	870	CG	ARG	106	12.834	60.597	26.290	1.00	16.79	6
ATOM	871	CD	ARG	106	13.699	61.788	26.757	1.00	19.51	6
ATOM	872	NE	ARG	106	13.334	62.927	26.025	1.00	23.46	7
ATOM	873	CZ	ARG	106	12.990	64.174	26.065	1.00	24.43	6
ATOM	874	NH1	ARG	106	12.923	64.892	27.176	1.00	25.93	7
ATOM	875	NH2	ARG	106	12.697	64.795	24.936	1.00	18.72	7
ATOM	876	C	ARG	106	11.422	58.321	25.304	1.00	18.56	6
ATOM	877	O	ARG	106	10.998	58.479	24.142	1.00	20.43	8

ATOM	878	N	CYS	107	10.642	58.246	26.378	1.00	15.23	7
ATOM	879	CA	CYS	107	9.189	58.419	26.292	1.00	14.89	6
ATOM	880	C	CYS	107	8.934	59.891	26.583	1.00	15.28	6
ATOM	881	O	CYS	107	9.296	60.294	27.690	1.00	15.96	8
ATOM	882	CB	CYS	107	8.438	57.565	27.322	1.00	14.55	6
ATOM	883	SG	CYS	107	6.691	57.368	27.013	1.00	13.91	16
ATOM	884	N	HIS	108	8.446	60.653	25.604	1.00	15.07	7
ATOM	885	CA	HIS	108	8.334	62.103	25.811	1.00	11.91	6
ATOM	886	CB	HIS	108	9.190	62.757	24.708	1.00	16.03	6
ATOM	887	CG	HIS	108	9.119	64.240	24.572	1.00	16.94	6
ATOM	888	CD2	HIS	108	9.068	65.023	23.462	1.00	17.64	6
ATOM	889	ND1	HIS	108	9.103	65.108	25.657	1.00	17.41	7
ATOM	890	CE1	HIS	108	9.034	66.350	25.215	1.00	17.37	6
ATOM	891	NE2	HIS	108	9.021	66.333	23.895	1.00	20.00	7
ATOM	892	C	HIS	108	6.925	62.647	25.733	1.00	11.83	6
ATOM	893	O	HIS	108	6.224	62.361	24.762	1.00	12.54	8
ATOM	894	N	SER	109	6.515	63.502	26.654	1.00	13.70	7
ATOM	895	CA	SER	109	5.160	64.091	26.605	1.00	11.70	6
ATOM	896	CB	SER	109	4.583	64.134	28.041	1.00	13.47	6
ATOM	897	OG	SER	109	5.609	64.845	28.800	1.00	16.16	8
ATOM	898	C	SER	109	5.190	65.459	25.970	1.00	14.21	6
ATOM	899	O	SER	109	6.180	66.232	25.903	1.00	14.63	8
ATOM	900	N	TRP	110	4.047	65.804	25.381	1.00	16.58	7
ATOM	901	CA	TRP	110	3.860	67.102	24.708	1.00	16.04	6
ATOM	902	CB	TRP	110	2.480	67.158	24.072	1.00	18.73	6
ATOM	903	CG	TRP	110	2.187	68.425	23.306	1.00	21.24	6
ATOM	904	CD2	TRP	110	1.135	69.339	23.589	1.00	20.70	6
ATOM	905	CE2	TRP	110	1.193	70.361	22.616	1.00	25.92	6
ATOM	906	CE3	TRP	110	0.112	69.372	24.549	1.00	24.16	6
ATOM	907	CD1	TRP	110	2.827	68.908	22.214	1.00	22.22	6
ATOM	908	NE1	TRP	110	2.233	70.069	21.765	1.00	22.81	7
ATOM	909	CZ2	TRP	110	0.276	71.404	22.568	1.00	24.18	6
ATOM	910	CZ3	TRP	110	-0.781	70.434	24.509	1.00	30.15	6
ATOM	911	CH2	TRP	110	-0.698	71.433	23.526	1.00	31.04	6
ATOM	912	C	TRP	110	4.082	68.245	25.681	1.00	14.44	6
ATOM	913	O	TRP	110	3.665	68.219	26.852	1.00	17.08	8
ATOM	914	N	LYS	111	4.928	69.199	25.294	1.00	19.42	7
ATOM	915	CA	LYS	111	5.347	70.325	26.115	1.00	19.40	6
ATOM	916	CB	LYS	111	4.131	71.241	26.418	1.00	21.00	6
ATOM	917	CG	LYS	111	3.583	71.904	25.155	1.00	24.94	6
ATOM	918	CD	LYS	111	2.124	72.287	25.337	1.00	34.17	6
ATOM	919	CE	LYS	111	1.952	73.719	25.781	1.00	37.49	6
ATOM	920	NZ	LYS	111	2.783	74.668	24.987	1.00	52.66	7
ATOM	921	C	LYS	111	5.940	69.921	27.450	1.00	20.33	6
ATOM	922	O	LYS	111	5.905	70.694	28.419	1.00	16.80	8
ATOM	923	N	ASP	112	6.444	68.695	27.602	1.00	18.28	7
ATOM	924	CA	ASP	112	6.989	68.233	28.861	1.00	20.31	6
ATOM	925	CB	ASP	112	8.242	69.088	29.191	1.00	24.52	6
ATOM	926	CG	ASP	112	9.306	68.737	28.155	1.00	31.39	6
ATOM	927	OD1	ASP	112	9.700	67.545	28.119	1.00	39.68	8
ATOM	928	OD2	ASP	112	9.719	69.588	27.360	1.00	35.00	8
ATOM	929	C	ASP	112	6.015	68.203	30.018	1.00	23.40	6
ATOM	930	O	ASP	112	6.426	68.475	31.148	1.00	23.42	8
ATOM	931	N	LYS	113	4.731	67.889	29.785	1.00	23.10	7
ATOM	932	CA	LYS	113	3.792	67.721	30.891	1.00	22.35	6
ATOM	933	CB	LYS	113	2.352	67.432	30.437	1.00	21.68	6
ATOM	934	CG	LYS	113	1.758	68.611	29.659	1.00	27.09	6
ATOM	935	CD	LYS	113	0.232	68.574	29.608	1.00	28.34	6
ATOM	936	CE	LYS	113	-0.269	69.780	28.816	1.00	32.92	6
ATOM	937	NZ	LYS	113	-0.196	71.075	29.554	1.00	33.55	7
ATOM	938	C	LYS	113	4.352	66.597	31.748	1.00	19.86	6
ATOM	939	O	LYS	113	4.890	65.603	31.264	1.00	21.45	8
ATOM	940	N	PRO	114	4.288	66.761	33.066	1.00	20.08	7

ATOM	941	CD	PRO	114	3.701	67.928	33.768	1.00	16.95	6
ATOM	942	CA	PRO	114	4.923	65.801	33.957	1.00	17.00	6
ATOM	943	CB	PRO	114	4.548	66.292	35.342	1.00	19.22	6
ATOM	944	CG	PRO	114	4.169	67.733	35.176	1.00	21.34	6
ATOM	945	C	PRO	114	4.451	64.405	33.636	1.00	16.83	6
ATOM	946	O	PRO	114	3.237	64.125	33.512	1.00	16.01	8
ATOM	947	N	LEU	115	5.414	63.483	33.560	1.00	15.95	7
ATOM	948	CA	LEU	115	5.081	62.104	33.215	1.00	17.10	6
ATOM	949	CB	LEU	115	5.769	61.879	31.856	1.00	16.83	6
ATOM	950	CG	LEU	115	5.790	60.498	31.231	1.00	21.64	6
ATOM	951	CD1	LEU	115	4.399	60.132	30.733	1.00	19.24	6
ATOM	952	CD2	LEU	115	6.777	60.486	30.043	1.00	19.80	6
ATOM	953	C	LEU	115	5.606	61.116	34.226	1.00	21.13	6
ATOM	954	O	LEU	115	6.788	61.200	34.569	1.00	18.84	8
ATOM	955	N	VAL	116	4.839	60.105	34.630	1.00	20.51	7
ATOM	956	CA	VAL	116	5.314	59.073	35.545	1.00	20.40	6
ATOM	957	CB	VAL	116	4.787	59.277	36.971	1.00	18.72	6
ATOM	958	CG1	VAL	116	5.313	60.547	37.644	1.00	22.67	6
ATOM	959	CG2	VAL	116	3.257	59.328	36.998	1.00	22.12	6
ATOM	960	C	VAL	116	4.807	57.703	35.073	1.00	19.73	6
ATOM	961	O	VAL	116	3.910	57.682	34.223	1.00	20.76	8
ATOM	962	N	LYS	117	5.268	56.615	35.693	1.00	17.34	7
ATOM	963	CA	LYS	117	4.760	55.290	35.381	1.00	20.33	6
ATOM	964	CB	LYS	117	3.271	55.182	35.802	1.00	21.74	6
ATOM	965	CG	LYS	117	3.115	54.927	37.301	1.00	24.43	6
ATOM	966	CD	LYS	117	1.793	55.445	37.832	1.00	32.69	6
ATOM	967	CE	LYS	117	0.798	54.314	38.056	1.00	40.27	6
ATOM	968	NZ	LYS	117	-0.568	54.865	38.266	1.00	44.06	7
ATOM	969	C	LYS	117	4.956	54.936	33.914	1.00	18.58	6
ATOM	970	O	LYS	117	4.026	54.535	33.234	1.00	24.35	8
ATOM	971	N	VAL	118	6.181	55.063	33.417	1.00	20.45	7
ATOM	972	CA	VAL	118	6.542	54.798	32.039	1.00	19.15	6
ATOM	973	CB	VAL	118	7.756	55.643	31.607	1.00	12.17	6
ATOM	974	CG1	VAL	118	8.199	55.396	30.176	1.00	18.94	6
ATOM	975	CG2	VAL	118	7.408	57.129	31.794	1.00	16.75	6
ATOM	976	C	VAL	118	6.868	53.330	31.797	1.00	18.58	6
ATOM	977	O	VAL	118	7.606	52.717	32.564	1.00	17.16	8
ATOM	978	N	THR	119	6.307	52.803	30.711	1.00	15.94	7
ATOM	979	CA	THR	119	6.527	51.425	30.335	1.00	16.50	6
ATOM	980	CB	THR	119	5.291	50.523	30.367	1.00	19.59	6
ATOM	981	OG1	THR	119	4.770	50.410	31.693	1.00	23.11	8
ATOM	982	CG2	THR	119	5.695	49.123	29.872	1.00	24.83	6
ATOM	983	C	THR	119	7.053	51.424	28.881	1.00	17.81	6
ATOM	984	O	THR	119	6.436	52.130	28.095	1.00	14.36	8
ATOM	985	N	PHE	120	8.121	50.679	28.643	1.00	14.86	7
ATOM	986	CA	PHE	120	8.616	50.608	27.259	1.00	13.85	6
ATOM	987	CB	PHE	120	10.122	50.797	27.240	1.00	15.51	6
ATOM	988	CG	PHE	120	10.553	52.230	27.463	1.00	13.38	6
ATOM	989	CD1	PHE	120	10.748	52.701	28.750	1.00	20.15	6
ATOM	990	CD2	PHE	120	10.792	53.051	26.381	1.00	20.08	6
ATOM	991	CE1	PHE	120	11.186	54.002	28.953	1.00	17.14	6
ATOM	992	CE2	PHE	120	11.230	54.367	26.578	1.00	22.12	6
ATOM	993	CZ	PHE	120	11.423	54.818	27.867	1.00	17.10	6
ATOM	994	C	PHE	120	8.279	49.216	26.721	1.00	17.13	6
ATOM	995	O	PHE	120	8.640	48.221	27.407	1.00	14.78	8
ATOM	996	N	PHE	121	7.626	49.166	25.575	1.00	16.20	7
ATOM	997	CA	PHE	121	7.277	47.868	25.011	1.00	18.83	6
ATOM	998	CB	PHE	121	5.799	47.821	24.616	1.00	13.50	6
ATOM	999	CG	PHE	121	4.768	48.052	25.656	1.00	18.60	6
ATOM	1000	CD1	PHE	121	4.368	49.339	26.017	1.00	17.37	6
ATOM	1001	CD2	PHE	121	4.208	46.961	26.334	1.00	18.44	6
ATOM	1002	CE1	PHE	121	3.409	49.524	27.006	1.00	19.78	6
ATOM	1003	CE2	PHE	121	3.260	47.173	27.313	1.00	22.69	6

ATOM	1004	CZ	PHE	121	2.843	48.445	27.660	1.00	15.74	6
ATOM	1005	C	PHE	121	8.074	47.539	23.749	1.00	18.44	6
ATOM	1006	O	PHE	121	8.351	48.454	22.987	1.00	15.63	8
ATOM	1007	N	GLN	122	8.333	46.253	23.480	1.00	19.35	7
ATOM	1008	CA	GLN	122	8.959	45.880	22.203	1.00	19.90	6
ATOM	1009	CB	GLN	122	10.396	45.379	22.317	1.00	16.32	6
ATOM	1010	CG	GLN	122	10.784	44.583	21.065	1.00	18.39	6
ATOM	1011	CD	GLN	122	12.050	43.764	21.247	1.00	21.98	6
ATOM	1012	OE1	GLN	122	12.423	43.461	22.374	1.00	19.18	8
ATOM	1013	NE2	GLN	122	12.700	43.396	20.153	1.00	24.51	7
ATOM	1014	C	GLN	122	8.067	44.774	21.609	1.00	15.34	6
ATOM	1015	O	GLN	122	7.789	43.832	22.321	1.00	17.30	8
ATOM	1016	N	ASN	123	7.474	44.931	20.439	1.00	18.98	7
ATOM	1017	CA	ASN	123	6.542	43.975	19.859	1.00	22.95	6
ATOM	1018	CB	ASN	123	7.241	42.708	19.332	1.00	19.57	6
ATOM	1019	CG	ASN	123	8.228	43.130	18.244	1.00	26.31	6
ATOM	1020	OD1	ASN	123	8.013	44.053	17.441	1.00	19.76	8
ATOM	1021	ND2	ASN	123	9.375	42.463	18.213	1.00	28.57	7
ATOM	1022	C	ASN	123	5.397	43.643	20.803	1.00	21.02	6
ATOM	1023	O	ASN	123	4.911	42.525	20.918	1.00	19.19	8
ATOM	1024	N	GLY	124	4.951	44.632	21.579	1.00	19.77	7
ATOM	1025	CA	GLY	124	3.852	44.516	22.495	1.00	16.41	6
ATOM	1026	C	GLY	124	4.159	43.885	23.844	1.00	14.85	6
ATOM	1027	O	GLY	124	3.210	43.658	24.611	1.00	15.05	8
ATOM	1028	N	LYS	125	5.405	43.610	24.133	1.00	13.81	7
ATOM	1029	CA	LYS	125	5.830	42.997	25.379	1.00	21.18	6
ATOM	1030	CB	LYS	125	6.700	41.738	25.247	1.00	14.85	6
ATOM	1031	CG	LYS	125	6.934	41.032	26.559	1.00	16.28	6
ATOM	1032	CD	LYS	125	7.406	39.587	26.281	1.00	22.51	6
ATOM	1033	CE	LYS	125	7.925	38.989	27.587	1.00	30.62	6
ATOM	1034	NZ	LYS	125	8.822	37.818	27.330	1.00	36.72	7
ATOM	1035	C	LYS	125	6.725	44.014	26.121	1.00	18.20	6
ATOM	1036	O	LYS	125	7.648	44.525	25.509	1.00	19.98	8
ATOM	1037	N	SER	126	6.385	44.216	27.393	1.00	17.62	7
ATOM	1038	CA	SER	126	7.107	45.241	28.155	1.00	20.03	6
ATOM	1039	CB	SER	126	6.355	45.459	29.485	1.00	23.22	6
ATOM	1040	OG	SER	126	7.317	45.773	30.466	1.00	38.12	8
ATOM	1041	C	SER	126	8.541	44.823	28.389	1.00	17.85	6
ATOM	1042	O	SER	126	8.842	43.657	28.647	1.00	21.31	8
ATOM	1043	N	GLN	127	9.490	45.718	28.254	1.00	17.16	7
ATOM	1044	CA	GLN	127	10.898	45.515	28.408	1.00	17.45	6
ATOM	1045	CB	GLN	127	11.723	46.073	27.225	1.00	20.82	6
ATOM	1046	CG	GLN	127	11.352	45.419	25.897	1.00	18.56	6
ATOM	1047	CD	GLN	127	11.497	43.912	25.927	1.00	24.44	6
ATOM	1048	OE1	GLN	127	12.606	43.416	26.116	1.00	31.62	8
ATOM	1049	NE2	GLN	127	10.436	43.130	25.773	1.00	19.15	7
ATOM	1050	C	GLN	127	11.386	46.251	29.661	1.00	20.94	6
ATOM	1051	O	GLN	127	12.439	45.929	30.179	1.00	18.25	8
ATOM	1052	N	LYS	128	10.643	47.285	30.032	1.00	21.18	7
ATOM	1053	CA	LYS	128	11.070	48.048	31.216	1.00	23.10	6
ATOM	1054	CB	LYS	128	12.177	49.034	30.842	1.00	21.83	6
ATOM	1055	CG	LYS	128	12.683	49.882	32.013	1.00	24.67	6
ATOM	1056	CD	LYS	128	13.739	50.905	31.589	1.00	18.23	6
ATOM	1057	CE	LYS	128	14.048	51.746	32.870	1.00	27.02	6
ATOM	1058	NZ	LYS	128	15.081	52.794	32.574	1.00	24.24	7
ATOM	1059	C	LYS	128	9.884	48.844	31.754	1.00	24.93	6
ATOM	1060	O	LYS	128	9.193	49.481	30.960	1.00	20.79	8
ATOM	1061	N	PHE	129	9.678	48.822	33.062	1.00	21.39	7
ATOM	1062	CA	PHE	129	8.708	49.695	33.695	1.00	24.45	6
ATOM	1063	CB	PHE	129	7.610	48.926	34.458	1.00	25.50	6
ATOM	1064	CG	PHE	129	6.772	49.837	35.327	1.00	25.51	6
ATOM	1065	CD1	PHE	129	5.799	50.630	34.762	1.00	19.40	6
ATOM	1066	CD2	PHE	129	7.002	49.928	36.700	1.00	29.98	6

ATOM	1067	CE1	PHE	129	5.026	51.491	35.535	1.00	25.00	6
ATOM	1068	CE2	PHE	129	6.249	50.788	37.491	1.00	28.84	6
ATOM	1069	CZ	PHE	129	5.262	51.574	36.902	1.00	32.29	6
ATOM	1070	C	PHE	129	9.480	50.577	34.687	1.00	27.88	6
ATOM	1071	O	PHE	129	10.388	50.049	35.359	1.00	30.99	8
ATOM	1072	N	SER	130	9.134	51.846	34.853	1.00	26.67	7
ATOM	1073	CA	SER	130	9.779	52.641	35.917	1.00	24.98	6
ATOM	1074	CB	SER	130	11.025	53.344	35.422	1.00	21.29	6
ATOM	1075	OG	SER	130	11.271	54.465	36.250	1.00	25.72	8
ATOM	1076	C	SER	130	8.777	53.667	36.434	1.00	24.39	6
ATOM	1077	O	SER	130	8.123	54.285	35.576	1.00	24.91	8
ATOM	1078	N	HIS	131	8.668	53.889	37.730	1.00	22.12	7
ATOM	1079	CA	HIS	131	7.710	54.901	38.204	1.00	23.65	6
ATOM	1080	CB	HIS	131	7.604	54.918	39.737	1.00	28.35	6
ATOM	1081	CG	HIS	131	6.859	53.706	40.197	1.00	23.57	6
ATOM	1082	CD2	HIS	131	7.307	52.509	40.642	1.00	18.55	6
ATOM	1083	ND1	HIS	131	5.478	53.666	40.170	1.00	26.69	7
ATOM	1084	CE1	HIS	131	5.095	52.478	40.617	1.00	16.65	6
ATOM	1085	NE2	HIS	131	6.173	51.764	40.890	1.00	23.94	7
ATOM	1086	C	HIS	131	8.108	56.314	37.814	1.00	23.89	6
ATOM	1087	O	HIS	131	7.261	57.205	37.712	1.00	26.21	8
ATOM	1088	N	LEU	132	9.426	56.548	37.689	1.00	21.77	7
ATOM	1089	CA	LEU	132	9.886	57.900	37.480	1.00	20.70	6
ATOM	1090	CB	LEU	132	10.630	58.361	38.760	1.00	30.28	6
ATOM	1091	CG	LEU	132	10.022	58.084	40.148	1.00	26.56	6
ATOM	1092	CD1	LEU	132	11.073	58.316	41.229	1.00	29.07	6
ATOM	1093	CD2	LEU	132	8.814	58.980	40.435	1.00	24.99	6
ATOM	1094	C	LEU	132	10.762	58.144	36.279	1.00	22.94	6
ATOM	1095	O	LEU	132	10.794	59.326	35.900	1.00	22.01	8
ATOM	1096	N	ASP	133	11.541	57.181	35.778	1.00	21.75	7
ATOM	1097	CA	ASP	133	12.469	57.401	34.679	1.00	24.62	6
ATOM	1098	CB	ASP	133	13.560	56.327	34.854	1.00	29.71	6
ATOM	1099	CG	ASP	133	14.734	56.321	33.915	1.00	32.90	6
ATOM	1100	OD1	ASP	133	14.837	57.254	33.083	1.00	32.91	8
ATOM	1101	OD2	ASP	133	15.597	55.394	34.000	1.00	36.01	8
ATOM	1102	C	ASP	133	11.843	57.230	33.296	1.00	25.88	6
ATOM	1103	O	ASP	133	11.419	56.136	32.940	1.00	24.36	8
ATOM	1104	N	PRO	134	11.857	58.261	32.460	1.00	24.65	7
ATOM	1105	CD	PRO	134	12.347	59.620	32.778	1.00	22.97	6
ATOM	1106	CA	PRO	134	11.293	58.185	31.112	1.00	24.00	6
ATOM	1107	CB	PRO	134	10.889	59.662	30.870	1.00	24.02	6
ATOM	1108	CG	PRO	134	11.987	60.433	31.544	1.00	23.04	6
ATOM	1109	C	PRO	134	12.256	57.764	30.017	1.00	22.11	6
ATOM	1110	O	PRO	134	11.970	57.930	28.824	1.00	19.00	8
ATOM	1111	N	THR	135	13.420	57.212	30.350	1.00	21.43	7
ATOM	1112	CA	THR	135	14.424	56.805	29.401	1.00	24.98	6
ATOM	1113	CB	THR	135	15.748	57.584	29.593	1.00	27.24	6
ATOM	1114	OG1	THR	135	16.331	57.065	30.796	1.00	24.99	8
ATOM	1115	CG2	THR	135	15.461	59.069	29.706	1.00	26.07	6
ATOM	1116	C	THR	135	14.747	55.312	29.451	1.00	23.58	6
ATOM	1117	O	THR	135	14.445	54.629	30.423	1.00	26.14	8
ATOM	1118	N	PHE	136	15.267	54.790	28.347	1.00	20.63	7
ATOM	1119	CA	PHE	136	15.549	53.391	28.150	1.00	20.10	6
ATOM	1120	CB	PHE	136	14.343	52.706	27.523	1.00	25.47	6
ATOM	1121	CG	PHE	136	14.408	51.250	27.170	1.00	25.61	6
ATOM	1122	CD1	PHE	136	14.528	50.270	28.121	1.00	27.00	6
ATOM	1123	CD2	PHE	136	14.332	50.847	25.841	1.00	27.45	6
ATOM	1124	CE1	PHE	136	14.571	48.929	27.787	1.00	32.62	6
ATOM	1125	CE2	PHE	136	14.385	49.516	25.490	1.00	28.46	6
ATOM	1126	CZ	PHE	136	14.493	48.549	26.463	1.00	30.41	6
ATOM	1127	C	PHE	136	16.796	53.197	27.297	1.00	24.00	6
ATOM	1128	O	PHE	136	16.952	53.801	26.230	1.00	24.50	8
ATOM	1129	N	SER	137	17.665	52.294	27.730	1.00	21.97	7

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ATOM   1130  CA  SER   137      18.914  52.010  27.050  1.00 26.52   6
ATOM   1131  CB  SER   137      20.120  52.418  27.908  1.00 30.03   6
ATOM   1132  OG  SER   137      20.769  53.559  27.412  1.00 44.19   8
ATOM   1133  C   SER   137      19.128  50.507  26.840  1.00 27.38   6
ATOM   1134  O   SER   137      18.911  49.694  27.721  1.00 27.33   8
ATOM   1135  N   ILE   138      19.654  50.164  25.686  1.00 25.86   7
ATOM   1136  CA  ILE   138      20.004  48.806  25.343  1.00 29.46   6
ATOM   1137  CB  ILE   138      19.189  48.176  24.193  1.00 33.38   6
ATOM   1138  CG2 ILE   138      19.669  46.748  23.941  1.00 27.23   6
ATOM   1139  CG1 ILE   138      17.679  48.197  24.472  1.00 30.55   6
ATOM   1140  CD1 ILE   138      16.817  48.155  23.223  1.00 29.53   6
ATOM   1141  C   ILE   138      21.477  48.875  24.926  1.00 29.88   6
ATOM   1142  O   ILE   138      21.768  49.377  23.849  1.00 27.99   8
ATOM   1143  N   PRO   139      22.345  48.476  25.837  1.00 31.71   7
ATOM   1144  CD  PRO   139      22.018  47.938  27.184  1.00 32.73   6
ATOM   1145  CA  PRO   139      23.776  48.398  25.598  1.00 33.85   6
ATOM   1146  CB  PRO   139      24.380  48.213  26.983  1.00 36.13   6
ATOM   1147  CG  PRO   139      23.248  48.384  27.950  1.00 34.99   6
ATOM   1148  C   PRO   139      24.030  47.160  24.741  1.00 35.63   6
ATOM   1149  O   PRO   139      23.324  46.160  24.888  1.00 38.22   8
ATOM   1150  N   GLN   140      24.974  47.208  23.827  1.00 36.97   7
ATOM   1151  CA  GLN   140      25.288  46.110  22.935  1.00 35.17   6
ATOM   1152  CB  GLN   140      26.223  45.124  23.631  1.00 43.87   6
ATOM   1153  CG  GLN   140      27.518  45.802  24.088  1.00 49.77   6
ATOM   1154  CD  GLN   140      27.883  45.282  25.468  1.00 56.21   6
ATOM   1155  OE1 GLN   140      28.145  44.084  25.593  1.00 57.44   8
ATOM   1156  NE2 GLN   140      27.883  46.161  26.468  1.00 57.25   7
ATOM   1157  C   GLN   140      24.060  45.418  22.362  1.00 34.61   6
ATOM   1158  O   GLN   140      23.677  44.284  22.693  1.00 33.34   8
ATOM   1159  N   ALA   141      23.473  46.111  21.391  1.00 29.80   7
ATOM   1160  CA  ALA   141      22.287  45.634  20.694  1.00 30.02   6
ATOM   1161  CB  ALA   141      21.778  46.745  19.774  1.00 27.89   6
ATOM   1162  C   ALA   141      22.561  44.400  19.832  1.00 29.52   6
ATOM   1163  O   ALA   141      23.650  44.270  19.263  1.00 29.60   8
ATOM   1164  N   ASN   142      21.528  43.582  19.665  1.00 30.60   7
ATOM   1165  CA  ASN   142      21.642  42.435  18.738  1.00 31.55   6
ATOM   1166  CB  ASN   142      21.985  41.139  19.453  1.00 30.39   6
ATOM   1167  CG  ASN   142      21.012  40.749  20.534  1.00 31.63   6
ATOM   1168  OD1 ASN   142      19.838  40.423  20.268  1.00 27.57   8
ATOM   1169  ND2 ASN   142      21.479  40.739  21.781  1.00 33.23   7
ATOM   1170  C   ASN   142      20.357  42.321  17.936  1.00 32.33   6
ATOM   1171  O   ASN   142      19.453  43.168  18.122  1.00 29.09   8
ATOM   1172  N   HIS   143      20.223  41.257  17.134  1.00 29.40   7
ATOM   1173  CA  HIS   143      19.075  41.086  16.266  1.00 28.82   6
ATOM   1174  CB  HIS   143      19.262  39.895  15.272  1.00 24.51   6
ATOM   1175  CG  HIS   143      20.360  40.234  14.295  1.00 31.72   6
ATOM   1176  CD2 HIS   143      20.704  41.420  13.740  1.00 33.88   6
ATOM   1177  ND1 HIS   143      21.278  39.328  13.822  1.00 32.86   7
ATOM   1178  CE1 HIS   143      22.117  39.927  13.008  1.00 31.84   6
ATOM   1179  NE2 HIS   143      21.794  41.202  12.941  1.00 31.48   7
ATOM   1180  C   HIS   143      17.747  40.857  16.976  1.00 26.62   6
ATOM   1181  O   HIS   143      16.696  41.098  16.366  1.00 25.96   8
ATOM   1182  N   SER   144      17.812  40.412  18.221  1.00 20.85   7
ATOM   1183  CA  SER   144      16.557  40.128  18.941  1.00 24.82   6
ATOM   1184  CB  SER   144      16.839  38.979  19.915  1.00 30.28   6
ATOM   1185  OG  SER   144      17.739  39.389  20.930  1.00 39.11   8
ATOM   1186  C   SER   144      15.976  41.423  19.474  1.00 24.89   6
ATOM   1187  O   SER   144      14.775  41.518  19.755  1.00 25.22   8
ATOM   1188  N   HIS   145      16.746  42.522  19.463  1.00 20.33   7
ATOM   1189  CA  HIS   145      16.306  43.861  19.811  1.00 19.38   6
ATOM   1190  CB  HIS   145      17.474  44.762  20.302  1.00 19.40   6
ATOM   1191  CG  HIS   145      18.145  44.212  21.534  1.00 18.37   6
ATOM   1192  CD2 HIS   145      17.620  43.886  22.744  1.00 18.22   6
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ATOM	1193	ND1	HIS	145	19.493	43.965	21.627	1.00	23.55	7
ATOM	1194	CE1	HIS	145	19.768	43.492	22.829	1.00	26.33	6
ATOM	1195	NE2	HIS	145	18.643	43.412	23.525	1.00	21.05	7
ATOM	1196	C	HIS	145	15.589	44.553	18.657	1.00	22.05	6
ATOM	1197	O	HIS	145	15.013	45.636	18.848	1.00	21.86	8
ATOM	1198	N	SER	146	15.569	43.997	17.440	1.00	20.66	7
ATOM	1199	CA	SER	146	14.833	44.649	16.363	1.00	19.96	6
ATOM	1200	CB	SER	146	15.075	44.009	14.986	1.00	20.48	6
ATOM	1201	OG	SER	146	16.442	44.154	14.613	1.00	25.61	8
ATOM	1202	C	SER	146	13.339	44.596	16.656	1.00	20.51	6
ATOM	1203	O	SER	146	12.915	43.614	17.287	1.00	22.06	8
ATOM	1204	N	GLY	147	12.556	45.578	16.197	1.00	16.70	7
ATOM	1205	CA	GLY	147	11.123	45.383	16.411	1.00	20.49	6
ATOM	1206	C	GLY	147	10.385	46.714	16.555	1.00	22.63	6
ATOM	1207	O	GLY	147	10.982	47.762	16.332	1.00	16.09	8
ATOM	1208	N	ASP	148	9.111	46.560	16.951	1.00	20.62	7
ATOM	1209	CA	ASP	148	8.324	47.777	17.121	1.00	21.57	6
ATOM	1210	CB	ASP	148	6.882	47.579	16.674	1.00	28.99	6
ATOM	1211	CG	ASP	148	6.819	47.144	15.219	1.00	41.07	6
ATOM	1212	OD1	ASP	148	7.849	47.338	14.540	1.00	39.21	8
ATOM	1213	OD2	ASP	148	5.763	46.620	14.808	1.00	39.40	8
ATOM	1214	C	ASP	148	8.315	48.214	18.590	1.00	20.72	6
ATOM	1215	O	ASP	148	7.817	47.469	19.447	1.00	20.27	8
ATOM	1216	N	TYR	149	8.822	49.440	18.798	1.00	16.97	7
ATOM	1217	CA	TYR	149	8.811	49.966	20.164	1.00	18.60	6
ATOM	1218	CB	TYR	149	10.193	50.587	20.472	1.00	16.94	6
ATOM	1219	CG	TYR	149	11.272	49.534	20.606	1.00	18.45	6
ATOM	1220	CD1	TYR	149	11.901	48.928	19.528	1.00	19.27	6
ATOM	1221	CE1	TYR	149	12.877	47.948	19.737	1.00	20.18	6
ATOM	1222	CD2	TYR	149	11.672	49.162	21.879	1.00	18.36	6
ATOM	1223	CE2	TYR	149	12.636	48.216	22.116	1.00	15.60	6
ATOM	1224	CZ	TYR	149	13.238	47.606	21.027	1.00	18.77	6
ATOM	1225	OH	TYR	149	14.211	46.660	21.253	1.00	18.41	8
ATOM	1226	C	TYR	149	7.767	51.061	20.355	1.00	15.78	6
ATOM	1227	O	TYR	149	7.539	51.859	19.450	1.00	15.86	8
ATOM	1228	N	HIS	150	7.196	51.126	21.559	1.00	15.01	7
ATOM	1229	CA	HIS	150	6.247	52.171	21.925	1.00	12.99	6
ATOM	1230	CB	HIS	150	4.849	51.980	21.372	1.00	11.96	6
ATOM	1231	CG	HIS	150	3.942	51.032	22.117	1.00	17.71	6
ATOM	1232	CD2	HIS	150	2.944	51.295	23.004	1.00	16.09	6
ATOM	1233	ND1	HIS	150	3.988	49.660	21.971	1.00	11.60	7
ATOM	1234	CE1	HIS	150	3.058	49.103	22.716	1.00	16.95	6
ATOM	1235	NE2	HIS	150	2.407	50.057	23.370	1.00	19.22	7
ATOM	1236	C	HIS	150	6.263	52.270	23.462	1.00	13.37	6
ATOM	1237	O	HIS	150	6.922	51.448	24.129	1.00	12.78	8
ATOM	1238	N	CYS	151	5.680	53.355	23.957	1.00	14.21	7
ATOM	1239	CA	CYS	151	5.670	53.559	25.414	1.00	15.38	6
ATOM	1240	C	CYS	151	4.301	53.982	25.880	1.00	16.27	6
ATOM	1241	O	CYS	151	3.422	54.404	25.132	1.00	15.15	8
ATOM	1242	CB	CYS	151	6.746	54.562	25.856	1.00	16.85	6
ATOM	1243	SG	CYS	151	6.581	56.269	25.248	1.00	14.82	16
ATOM	1244	N	THR	152	4.080	53.805	27.186	1.00	17.41	7
ATOM	1245	CA	THR	152	2.875	54.223	27.862	1.00	17.27	6
ATOM	1246	CB	THR	152	1.899	53.131	28.305	1.00	21.80	6
ATOM	1247	OG1	THR	152	2.527	52.212	29.205	1.00	17.53	8
ATOM	1248	CG2	THR	152	1.356	52.388	27.075	1.00	17.12	6
ATOM	1249	C	THR	152	3.346	54.989	29.127	1.00	19.83	6
ATOM	1250	O	THR	152	4.471	54.724	29.600	1.00	16.21	8
ATOM	1251	N	GLY	153	2.496	55.913	29.534	1.00	17.84	7
ATOM	1252	CA	GLY	153	2.815	56.706	30.731	1.00	20.33	6
ATOM	1253	C	GLY	153	1.647	57.605	31.108	1.00	18.60	6
ATOM	1254	O	GLY	153	0.779	57.915	30.293	1.00	19.87	8
ATOM	1255	N	ASN	154	1.603	58.000	32.373	1.00	20.99	7

ATOM	1256	CA	ASN	154	0.560	58.815	32.959	1.00	20.36	6
ATOM	1257	CB	ASN	154	0.512	58.556	34.478	1.00	26.77	6
ATOM	1258	CG	ASN	154	-0.800	57.928	34.897	1.00	40.91	6
ATOM	1259	OD1	ASN	154	-1.700	58.580	35.441	1.00	46.67	8
ATOM	1260	ND2	ASN	154	-0.927	56.639	34.633	1.00	40.24	7
ATOM	1261	C	ASN	154	0.879	60.300	32.817	1.00	22.51	6
ATOM	1262	O	ASN	154	1.973	60.685	33.272	1.00	22.15	8
ATOM	1263	N	ILE	155	-0.018	61.067	32.202	1.00	19.40	7
ATOM	1264	CA	ILE	155	0.198	62.514	32.139	1.00	22.27	6
ATOM	1265	CB	ILE	155	0.210	63.116	30.731	1.00	26.29	6
ATOM	1266	CG2	ILE	155	0.327	64.640	30.831	1.00	23.31	6
ATOM	1267	CG1	ILE	155	1.367	62.544	29.899	1.00	28.16	6
ATOM	1268	CD1	ILE	155	1.371	62.874	28.434	1.00	29.42	6
ATOM	1269	C	ILE	155	-0.974	63.089	32.941	1.00	27.67	6
ATOM	1270	O	ILE	155	-2.112	62.726	32.639	1.00	24.10	8
ATOM	1271	N	GLY	156	-0.732	63.838	34.020	1.00	33.10	7
ATOM	1272	CA	GLY	156	-1.942	64.285	34.780	1.00	37.62	6
ATOM	1273	C	GLY	156	-2.447	63.053	35.527	1.00	38.80	6
ATOM	1274	O	GLY	156	-1.659	62.512	36.299	1.00	43.91	8
ATOM	1275	N	TYR	157	-3.655	62.573	35.307	1.00	41.47	7
ATOM	1276	CA	TYR	157	-4.182	61.357	35.894	1.00	43.65	6
ATOM	1277	CB	TYR	157	-5.381	61.642	36.832	1.00	51.51	6
ATOM	1278	CG	TYR	157	-5.020	62.592	37.961	1.00	57.42	6
ATOM	1279	CD1	TYR	157	-5.523	63.885	37.982	1.00	60.45	6
ATOM	1280	CE1	TYR	157	-5.179	64.765	38.992	1.00	62.57	6
ATOM	1281	CD2	TYR	157	-4.140	62.204	38.963	1.00	61.00	6
ATOM	1282	CE2	TYR	157	-3.788	63.079	39.982	1.00	63.03	6
ATOM	1283	CZ	TYR	157	-4.313	64.353	39.986	1.00	63.56	6
ATOM	1284	OH	TYR	157	-3.979	65.237	40.984	1.00	66.68	8
ATOM	1285	C	TYR	157	-4.676	60.351	34.849	1.00	41.96	6
ATOM	1286	O	TYR	157	-5.445	59.420	35.115	1.00	41.33	8
ATOM	1287	N	THR	158	-4.298	60.547	33.594	1.00	36.77	7
ATOM	1288	CA	THR	158	-4.722	59.693	32.496	1.00	30.71	6
ATOM	1289	CB	THR	158	-5.260	60.597	31.364	1.00	30.82	6
ATOM	1290	OG1	THR	158	-6.237	61.471	31.942	1.00	30.47	8
ATOM	1291	CG2	THR	158	-5.851	59.819	30.207	1.00	29.21	6
ATOM	1292	C	THR	158	-3.532	58.944	31.912	1.00	25.66	6
ATOM	1293	O	THR	158	-2.521	59.609	31.642	1.00	24.50	8
ATOM	1294	N	LEU	159	-3.689	57.664	31.609	1.00	21.00	7
ATOM	1295	CA	LEU	159	-2.617	56.924	30.960	1.00	21.01	6
ATOM	1296	CB	LEU	159	-2.737	55.435	31.284	1.00	26.53	6
ATOM	1297	CG	LEU	159	-1.601	54.487	30.958	1.00	27.15	6
ATOM	1298	CD1	LEU	159	-0.323	54.817	31.713	1.00	25.15	6
ATOM	1299	CD2	LEU	159	-1.979	53.036	31.316	1.00	28.75	6
ATOM	1300	C	LEU	159	-2.654	57.179	29.461	1.00	22.04	6
ATOM	1301	O	LEU	159	-3.711	57.248	28.844	1.00	22.64	8
ATOM	1302	N	PHE	160	-1.484	57.396	28.855	1.00	20.79	7
ATOM	1303	CA	PHE	160	-1.430	57.576	27.409	1.00	19.10	6
ATOM	1304	CB	PHE	160	-0.821	58.946	27.060	1.00	20.91	6
ATOM	1305	CG	PHE	160	-1.848	60.034	27.216	1.00	19.50	6
ATOM	1306	CD1	PHE	160	-1.971	60.676	28.442	1.00	24.86	6
ATOM	1307	CD2	PHE	160	-2.645	60.409	26.156	1.00	21.03	6
ATOM	1308	CE1	PHE	160	-2.903	61.709	28.588	1.00	29.44	6
ATOM	1309	CE2	PHE	160	-3.582	61.421	26.296	1.00	19.89	6
ATOM	1310	CZ	PHE	160	-3.704	62.074	27.529	1.00	25.34	6
ATOM	1311	C	PHE	160	-0.521	56.513	26.794	1.00	17.36	6
ATOM	1312	O	PHE	160	0.346	55.982	27.504	1.00	18.36	8
ATOM	1313	N	SER	161	-0.753	56.240	25.521	1.00	17.60	7
ATOM	1314	CA	SER	161	0.087	55.302	24.785	1.00	14.63	6
ATOM	1315	CB	SER	161	-0.744	54.150	24.188	1.00	20.14	6
ATOM	1316	OG	SER	161	0.115	53.054	23.901	1.00	21.55	8
ATOM	1317	C	SER	161	0.662	56.037	23.561	1.00	18.96	6
ATOM	1318	O	SER	161	-0.101	56.753	22.894	1.00	19.79	8

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ATOM   1319  N   SER  162       1.921  55.796  23.232  1.00 16.19   7
ATOM   1320  CA  SER  162       2.518  56.404  22.049  1.00 16.74   6
ATOM   1321  CB  SER  162       4.029  56.678  22.233  1.00 16.78   6
ATOM   1322  OG  SER  162       4.801  55.530  21.900  1.00 21.00   8
ATOM   1323  C   SER  162       2.322  55.485  20.845  1.00 18.24   6
ATOM   1324  O   SER  162       1.949  54.305  20.987  1.00 16.85   8
ATOM   1325  N   LYS  163       2.535  56.027  19.652  1.00 17.96   7
ATOM   1326  CA  LYS  163       2.484  55.203  18.445  1.00 17.36   6
ATOM   1327  CB  LYS  163       2.369  55.957  17.133  1.00 20.94   6
ATOM   1328  CG  LYS  163       1.228  56.885  16.902  1.00 25.34   6
ATOM   1329  CD  LYS  163      -0.128  56.271  16.685  1.00 29.02   6
ATOM   1330  CE  LYS  163      -0.954  57.131  15.721  1.00 42.35   6
ATOM   1331  NZ  LYS  163      -0.495  58.558  15.692  1.00 38.14   7
ATOM   1332  C   LYS  163       3.821  54.466  18.391  1.00 17.27   6
ATOM   1333  O   LYS  163       4.817  54.906  18.978  1.00 16.54   8
ATOM   1334  N   PRO  164       3.840  53.348  17.696  1.00 18.39   7
ATOM   1335  CD  PRO  164       2.702  52.743  16.952  1.00 20.79   6
ATOM   1336  CA  PRO  164       5.060  52.572  17.546  1.00 19.84   6
ATOM   1337  CB  PRO  164       4.545  51.177  17.142  1.00 17.33   6
ATOM   1338  CG  PRO  164       3.254  51.416  16.475  1.00 21.76   6
ATOM   1339  C   PRO  164       6.032  53.169  16.528  1.00 19.62   6
ATOM   1340  O   PRO  164       5.723  53.942  15.619  1.00 19.46   8
ATOM   1341  N   VAL  165       7.295  52.833  16.674  1.00 17.22   7
ATOM   1342  CA  VAL  165       8.427  53.162  15.841  1.00 20.36   6
ATOM   1343  CB  VAL  165       9.405  54.190  16.450  1.00 20.84   6
ATOM   1344  CG1 VAL  165      10.418  54.643  15.404  1.00 20.46   6
ATOM   1345  CG2 VAL  165       8.699  55.475  16.899  1.00 23.72   6
ATOM   1346  C   VAL  165       9.173  51.833  15.590  1.00 22.05   6
ATOM   1347  O   VAL  165       9.532  51.094  16.499  1.00 22.10   8
ATOM   1348  N   THR  166       9.444  51.549  14.320  1.00 24.93   7
ATOM   1349  CA  THR  166      10.111  50.317  13.939  1.00 26.07   6
ATOM   1350  CB  THR  166       9.631  49.784  12.579  1.00 31.66   6
ATOM   1351  OG1 THR  166       9.737  50.811  11.569  1.00 38.39   8
ATOM   1352  CG2 THR  166       8.180  49.353  12.694  1.00 23.71   6
ATOM   1353  C   THR  166      11.611  50.597  13.909  1.00 25.06   6
ATOM   1354  O   THR  166      11.985  51.536  13.244  1.00 21.88   8
ATOM   1355  N   ILE  167      12.362  49.878  14.714  1.00 21.40   7
ATOM   1356  CA  ILE  167      13.784  49.907  14.909  1.00 25.06   6
ATOM   1357  CB  ILE  167      14.088  50.164  16.424  1.00 26.21   6
ATOM   1358  CG2 ILE  167      15.588  50.159  16.673  1.00 26.68   6
ATOM   1359  CG1 ILE  167      13.415  51.472  16.825  1.00 26.56   6
ATOM   1360  CD1 ILE  167      13.946  52.318  17.939  1.00 30.83   6
ATOM   1361  C   ILE  167      14.416  48.572  14.501  1.00 24.36   6
ATOM   1362  O   ILE  167      14.013  47.482  14.920  1.00 23.36   8
ATOM   1363  N   THR  168      15.412  48.591  13.630  1.00 22.83   7
ATOM   1364  CA  THR  168      16.083  47.405  13.152  1.00 27.27   6
ATOM   1365  CB  THR  168      15.945  47.266  11.622  1.00 31.88   6
ATOM   1366  OG1 THR  168      14.565  47.371  11.277  1.00 32.11   8
ATOM   1367  CG2 THR  168      16.462  45.894  11.179  1.00 34.54   6
ATOM   1368  C   THR  168      17.575  47.414  13.501  1.00 28.53   6
ATOM   1369  O   THR  168      18.190  48.483  13.508  1.00 32.64   8
ATOM   1370  N   VAL  169      18.090  46.260  13.863  1.00 23.55   7
ATOM   1371  CA  VAL  169      19.472  46.011  14.163  1.00 27.27   6
ATOM   1372  CB  VAL  169      19.728  45.359  15.523  1.00 28.51   6
ATOM   1373  CG1 VAL  169      21.227  45.133  15.757  1.00 26.42   6
ATOM   1374  CG2 VAL  169      19.189  46.160  16.696  1.00 27.97   6
ATOM   1375  C   VAL  169      20.011  45.022  13.098  1.00 32.65   6
ATOM   1376  O   VAL  169      19.332  44.056  12.710  1.00 33.21   8
ATOM   1377  N   GLN  170      21.245  45.196  12.689  0.01 33.85   7
ATOM   1378  CA  GLN  170      21.966  44.390  11.737  0.01 35.75   6
ATOM   1379  CB  GLN  170      23.335  44.027  12.362  0.01 36.48   6
ATOM   1380  CG  GLN  170      24.465  44.012  11.347  0.01 37.54   6
ATOM   1381  CD  GLN  170      25.478  45.110  11.599  0.01 37.91   6
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ATOM   1382  OE1 GLN   170      25.142  46.186  12.096  0.01 38.17    8
ATOM   1383  NE2 GLN   170      26.735  44.846  11.257  0.01 38.21    7
ATOM   1384  C   GLN   170      21.355  43.088  11.241  0.01 36.70    6
ATOM   1385  O   GLN   170      21.049  42.167  11.995  0.01 36.81    8
ATOM   1386  N   VAL   171      21.273  42.959   9.919  0.01 37.51    7
ATOM   1387  CA  VAL   171      20.781  41.772   9.240  0.01 38.20    6
ATOM   1388  CB  VAL   171      19.483  41.208   9.842  0.01 38.61    6
ATOM   1389  CG1 VAL   171      18.334  42.199   9.681  0.01 38.88    6
ATOM   1390  CG2 VAL   171      19.115  39.881   9.180  0.01 38.83    6
ATOM   1391  C   VAL   171      20.587  42.048   7.750  0.01 38.42    6
ATOM   1392  O   VAL   171      21.420  41.573   6.949  0.01 38.53    8
ATOM   1393  OW0 WAT   201      13.958  68.106  19.930  1.00 18.36    8
ATOM   1394  OW0 WAT   202      13.653  41.241  23.320  1.00 24.59    8
ATOM   1395  OW0 WAT   203       5.895  57.410  18.965  1.00 14.14    8
ATOM   1396  OW0 WAT   204       9.519  72.688  30.514  1.00 42.11    8
ATOM   1397  OW0 WAT   205       8.700  64.454  28.355  1.00 21.65    8
ATOM   1398  OW0 WAT   206      25.548  65.664   7.898  1.00 24.88    8
ATOM   1399  OW0 WAT   207       2.902  52.471  31.897  1.00 19.13    8
ATOM   1400  OW0 WAT   208      14.303  45.256  23.676  1.00 24.28    8
ATOM   1401  OW0 WAT   209      10.371  62.552  29.076  1.00 27.73    8
ATOM   1402  OW0 WAT   210      12.433  66.629  21.505  1.00 14.04    8
ATOM   1403  OW0 WAT   211       5.417  47.499  21.002  1.00 16.89    8
ATOM   1404  OW0 WAT   212      29.599  82.797  11.595  1.00 34.62    8
ATOM   1405  OW0 WAT   213      17.813  70.187   2.648  1.00 16.34    8
ATOM   1406  OW0 WAT   214       6.656  58.315  16.413  1.00 24.31    8
ATOM   1407  OW0 WAT   215      21.191  80.146   5.335  1.00 30.05    8
ATOM   1408  OW0 WAT   216      15.621  66.766  18.319  1.00 18.82    8
ATOM   1409  OW0 WAT   217       6.528  56.410  14.460  1.00 26.68    8
ATOM   1410  OW0 WAT   218       6.213  69.723  22.792  1.00 19.89    8
ATOM   1411  OW0 WAT   219      12.935  67.874  24.109  1.00 29.95    8
ATOM   1412  OW0 WAT   220      -2.277  62.236  20.953  1.00 28.34    8
ATOM   1413  OW0 WAT   221      20.151  71.344   0.183  1.00 21.62    8
ATOM   1414  OW0 WAT   222      27.773  65.203   6.295  1.00 20.74    8
ATOM   1415  OW0 WAT   223      -0.481  58.864  19.811  1.00 24.67    8
ATOM   1416  OW0 WAT   224      17.815  67.914   1.120  1.00 26.99    8
ATOM   1417  OW0 WAT   225      16.604  64.761  25.523  1.00 18.45    8
ATOM   1418  OW0 WAT   226      -0.330  59.580  22.516  1.00 29.01    8
ATOM   1419  OW0 WAT   227      13.324  40.955  17.129  1.00 40.98    8
ATOM   1420  OW0 WAT   228       9.214  41.380  22.450  1.00 41.91    8
ATOM   1421  OW0 WAT   229      20.146  82.270  13.850  1.00 50.03    8
ATOM   1422  OW0 WAT   230      21.707  80.353  12.325  1.00 18.46    8
ATOM   1423  OW0 WAT   231      15.403  67.167  25.599  1.00 21.44    8
ATOM   1424  OW0 WAT   232      12.703  63.258  30.174  1.00 37.28    8
ATOM   1425  OW0 WAT   233      12.479  61.400  39.250  1.00 23.78    8
ATOM   1426  OW0 WAT   234      13.921  59.460   9.106  1.00 40.49    8
ATOM   1427  OW0 WAT   235       7.230  72.381  24.432  1.00 41.81    8
ATOM   1428  OW0 WAT   236       2.989  58.681  19.344  1.00 17.29    8
ATOM   1429  OW0 WAT   237      12.865  75.036  10.180  1.00 47.19    8
ATOM   1430  OW0 WAT   238       2.754  67.991  13.259  1.00 35.75    8
ATOM   1431  OW0 WAT   239      17.416  57.608  26.641  1.00 32.09    8
ATOM   1432  OW0 WAT   240      31.068  75.579  10.888  1.00 20.85    8
ATOM   1433  OW0 WAT   241      17.725  71.985  21.261  1.00 25.43    8
ATOM   1434  OW0 WAT   242      32.760  65.251   6.079  1.00 38.04    8
ATOM   1435  OW0 WAT   243      14.079  72.373  25.218  1.00 20.23    8
ATOM   1436  OW0 WAT   244      16.644  77.936  -2.315  1.00 34.00    8
ATOM   1437  OW0 WAT   245       1.790  62.643  35.518  1.00 30.63    8
ATOM   1438  OW0 WAT   246      10.026  76.840  13.639  1.00 31.10    8
ATOM   1439  OW0 WAT   247      11.096  40.538  24.599  1.00 33.25    8
ATOM   1440  OW0 WAT   248      19.457  73.016  -2.970  1.00 36.88    8
ATOM   1441  OW0 WAT   249      18.578  60.108  26.756  1.00 30.86    8
ATOM   1442  OW0 WAT   250      11.119  78.675  16.190  1.00 37.83    8
ATOM   1443  OW0 WAT   251       2.583  76.687  28.032  1.00 73.18    8
ATOM   1444  OW0 WAT   252       0.243  75.153  22.803  1.00 34.15    8
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ATOM   1445  OW0 WAT   253      33.328  82.165  10.255  1.00 23.17    8
ATOM   1446  OW0 WAT   254      22.212  87.081   5.080  1.00 51.41    8
ATOM   1447  OW0 WAT   255      21.393  83.921  11.680  1.00 31.47    8
ATOM   1448  OW0 WAT   256      37.174  72.382   4.349  1.00 36.66    8
ATOM   1449  OW0 WAT   257      23.291  53.950  13.981  1.00 45.02    8
ATOM   1450  OW0 WAT   258      31.521  80.134   5.404  1.00 28.19    8
ATOM   1451  OW0 WAT   259      11.904  78.169   8.209  1.00 61.39    8
ATOM   1452  OW0 WAT   260       7.393  36.160  24.668  1.00 45.96    8
ATOM   1453  OW0 WAT   261      12.356  70.954  23.727  1.00 23.77    8
ATOM   1454  OW0 WAT   262      33.898  69.078   7.353  1.00 32.96    8
ATOM   1455  OW0 WAT   263      28.502  52.764  25.478  1.00 58.40    8
ATOM   1456  OW0 WAT   264      23.414  37.810  18.427  1.00 35.16    8
ATOM   1457  OW0 WAT   265       4.792  74.631  16.778  1.00 44.49    8
ATOM   1458  OW0 WAT   266      28.509  77.721  -1.620  1.00 50.51    8
ATOM   1459  OW0 WAT   267      19.685  68.488  -0.712  1.00 45.74    8
ATOM   1460  OW0 WAT   268      10.899  74.487  23.620  1.00 43.61    8
ATOM   1461  OW0 WAT   269      -1.033  73.720  20.128  1.00 34.52    8
ATOM   1462  OW0 WAT   270      15.215  67.397   0.077  1.00 27.35    8
ATOM   1463  OW0 WAT   271       8.748  79.989  16.508  1.00 51.59    8
ATOM   1464  OW0 WAT   272      22.332  82.314   3.707  1.00 30.25    8
ATOM   1465  OW0 WAT   273      23.373  70.771  17.610  1.00 22.44    8
ATOM   1466  OW0 WAT   274      11.965  67.872  26.359  1.00 26.92    8
ATOM   1467  OW0 WAT   275      35.793  71.146   7.198  1.00 27.19    8
ATOM   1468  OW0 WAT   276      10.333  72.530  25.867  1.00 46.78    8
ATOM   1469  OW0 WAT   277      17.230  69.185  24.852  1.00 26.22    8
ATOM   1470  OW0 WAT   278      17.594  51.432  30.830  1.00 32.58    8
ATOM   1471  OW0 WAT   279       8.561  67.703  32.884  1.00 37.04    8
ATOM   1472  OW0 WAT   280      16.374  71.765  -4.195  1.00 31.45    8
ATOM   1473  OW0 WAT   281       8.995  70.329  24.946  1.00 36.64    8
ATOM   1474  OW0 WAT   282      19.019  47.051  28.676  1.00 48.06    8
ATOM   1475  OW0 WAT   283      20.039  61.350  15.742  1.00 23.23    8
ATOM   1476  OW0 WAT   284      21.308  55.309  20.658  1.00 28.24    8
ATOM   1477  OW0 WAT   285       7.405  70.019   5.261  1.00 41.47    8
ATOM   1478  OW0 WAT   286      23.729  66.066   0.632  1.00 30.27    8
ATOM   1479  OW0 WAT   287      15.826  40.095  23.946  1.00 41.94    8
ATOM   1480  OW0 WAT   288      -0.119  50.371  24.812  0.50 25.93    8
ATOM   1481  OW0 WAT   289       3.397  54.879  42.245  1.00 29.87    8
ATOM   1482  OW0 WAT   290      10.215  53.151  32.270  1.00 43.33    8
ATOM   1483  OW0 WAT   291       8.440  65.109  33.883  1.00 34.09    8
ATOM      1  CB  ALA   401     -36.645  32.040  -4.702  1.00 51.37    6
ATOM      2  C   ALA   401     -36.199  32.572  -2.285  1.00 42.22    6
ATOM      3  O   ALA   401     -36.801  33.374  -1.569  1.00 42.70    8
ATOM      4  N   ALA   401     -34.367  32.745  -3.997  1.00 45.74    7
ATOM      5  CA  ALA   401     -35.829  32.874  -3.724  1.00 43.68    6
ATOM      6  N   PRO   402     -35.903  31.367  -1.817  1.00 40.54    7
ATOM      7  CD  PRO   402     -35.149  30.320  -2.533  1.00 38.91    6
ATOM      8  CA  PRO   402     -36.172  31.022  -0.425  1.00 38.61    6
ATOM      9  CB  PRO   402     -35.765  29.566  -0.322  1.00 39.86    6
ATOM     10  CG  PRO   402     -34.790  29.353  -1.426  1.00 41.36    6
ATOM     11  C   PRO   402     -35.294  31.935   0.434  1.00 36.70    6
ATOM     12  O   PRO   402     -34.188  32.212  -0.042  1.00 32.46    8
ATOM     13  N   PRO   403     -35.789  32.370   1.579  1.00 33.82    7
ATOM     14  CD  PRO   403     -37.120  32.009   2.110  1.00 35.16    6
ATOM     15  CA  PRO   403     -35.069  33.229   2.491  1.00 38.25    6
ATOM     16  CB  PRO   403     -35.872  33.227   3.799  1.00 37.39    6
ATOM     17  CG  PRO   403     -37.180  32.599   3.486  1.00 37.41    6
ATOM     18  C   PRO   403     -33.653  32.730   2.790  1.00 37.48    6
ATOM     19  O   PRO   403     -33.393  31.531   2.683  1.00 34.39    8
ATOM     20  N   LYS   404     -32.763  33.654   3.173  1.00 37.04    7
ATOM     21  CA  LYS   404     -31.399  33.188   3.424  1.00 34.97    6
ATOM     22  CB  LYS   404     -30.318  34.202   3.122  1.00 43.98    6
ATOM     23  CG  LYS   404     -30.564  35.675   3.278  1.00 47.64    6
ATOM     24  CD  LYS   404     -29.775  36.517   2.292  1.00 52.03    6
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ATOM	25	CE	LYS	404	-28.317	36.123	2.137	1.00	57.56	6
ATOM	26	NZ	LYS	404	-27.724	36.613	0.855	1.00	56.40	7
ATOM	27	C	LYS	404	-31.243	32.632	4.825	1.00	31.44	6
ATOM	28	O	LYS	404	-31.846	33.097	5.784	1.00	29.91	8
ATOM	29	N	ALA	405	-30.416	31.586	4.908	1.00	28.75	7
ATOM	30	CA	ALA	405	-30.039	31.053	6.218	1.00	27.21	6
ATOM	31	CB	ALA	405	-29.155	29.834	6.110	1.00	21.94	6
ATOM	32	C	ALA	405	-29.278	32.183	6.923	1.00	26.42	6
ATOM	33	O	ALA	405	-28.760	33.072	6.222	1.00	26.10	8
ATOM	34	N	VAL	406	-29.231	32.192	8.241	1.00	24.91	7
ATOM	35	CA	VAL	406	-28.515	33.234	8.985	1.00	26.95	6
ATOM	36	CB	VAL	406	-29.490	34.128	9.770	1.00	29.36	6
ATOM	37	CG1	VAL	406	-28.779	35.140	10.676	1.00	29.86	6
ATOM	38	CG2	VAL	406	-30.434	34.842	8.801	1.00	26.74	6
ATOM	39	C	VAL	406	-27.503	32.613	9.942	1.00	28.93	6
ATOM	40	O	VAL	406	-27.846	31.872	10.866	1.00	31.46	8
ATOM	41	N	LEU	407	-26.233	32.937	9.758	1.00	30.08	7
ATOM	42	CA	LEU	407	-25.105	32.483	10.546	1.00	29.33	6
ATOM	43	CB	LEU	407	-23.839	32.520	9.657	1.00	33.18	6
ATOM	44	CG	LEU	407	-22.828	31.408	9.960	1.00	34.94	6
ATOM	45	CD1	LEU	407	-22.082	30.990	8.721	1.00	27.55	6
ATOM	46	CD2	LEU	407	-21.887	31.864	11.069	1.00	32.30	6
ATOM	47	C	LEU	407	-24.816	33.301	11.794	1.00	29.57	6
ATOM	48	O	LEU	407	-24.653	34.515	11.800	1.00	30.04	8
ATOM	49	N	LYS	408	-24.768	32.624	12.930	1.00	28.04	7
ATOM	50	CA	LYS	408	-24.568	33.174	14.257	1.00	25.12	6
ATOM	51	CB	LYS	408	-25.738	32.687	15.132	1.00	33.32	6
ATOM	52	CG	LYS	408	-25.777	33.255	16.532	1.00	39.37	6
ATOM	53	CD	LYS	408	-25.967	32.268	17.652	1.00	43.84	6
ATOM	54	CE	LYS	408	-27.129	31.305	17.487	1.00	47.78	6
ATOM	55	NZ	LYS	408	-27.525	30.691	18.793	1.00	48.98	7
ATOM	56	C	LYS	408	-23.233	32.674	14.797	1.00	24.53	6
ATOM	57	O	LYS	408	-22.934	31.482	14.739	1.00	25.35	8
ATOM	58	N	LEU	409	-22.423	33.556	15.333	1.00	24.78	7
ATOM	59	CA	LEU	409	-21.080	33.313	15.843	1.00	22.07	6
ATOM	60	CB	LEU	409	-20.189	34.383	15.190	1.00	20.04	6
ATOM	61	CG	LEU	409	-18.725	34.503	15.596	1.00	20.57	6
ATOM	62	CD1	LEU	409	-17.980	33.242	15.214	1.00	19.57	6
ATOM	63	CD2	LEU	409	-18.084	35.729	14.903	1.00	23.44	6
ATOM	64	C	LEU	409	-21.019	33.451	17.346	1.00	21.01	6
ATOM	65	O	LEU	409	-21.424	34.473	17.869	1.00	22.38	8
ATOM	66	N	GLU	410	-20.583	32.456	18.118	1.00	22.53	7
ATOM	67	CA	GLU	410	-20.480	32.581	19.567	1.00	21.02	6
ATOM	68	CB	GLU	410	-21.523	31.684	20.270	1.00	27.36	6
ATOM	69	CGA	GLU	410	-22.971	32.088	20.090	0.50	28.21	6
ATOM	70	CGB	GLU	410	-22.946	32.209	20.195	0.50	38.29	6
ATOM	71	CDA	GLU	410	-24.047	31.077	20.422	0.50	28.55	6
ATOM	72	CDB	GLU	410	-23.100	33.664	20.587	0.50	43.48	6
ATOM	73	OE1	GLU	410	-25.131	31.501	20.907	0.50	26.56	8
ATOM	74	OE1	GLU	410	-22.443	34.095	21.565	0.50	47.24	8
ATOM	75	OE2	GLU	410	-23.888	29.858	20.186	0.50	22.10	8
ATOM	76	OE2	GLU	410	-23.871	34.380	19.908	0.50	46.42	8
ATOM	77	C	GLU	410	-19.096	32.138	20.008	1.00	19.76	6
ATOM	78	O	GLU	410	-18.701	31.024	19.613	1.00	18.00	8
ATOM	79	N	PRO	411	-18.423	32.871	20.888	1.00	19.07	7
ATOM	80	CD	PRO	411	-17.058	32.526	21.390	1.00	18.71	6
ATOM	81	CA	PRO	411	-18.834	34.204	21.319	1.00	18.84	6
ATOM	82	CB	PRO	411	-17.807	34.594	22.365	1.00	17.38	6
ATOM	83	CG	PRO	411	-16.560	33.866	21.944	1.00	18.86	6
ATOM	84	C	PRO	411	-18.787	35.108	20.090	1.00	20.01	6
ATOM	85	O	PRO	411	-18.310	34.654	19.051	1.00	16.22	8
ATOM	86	N	PRO	412	-19.232	36.349	20.155	1.00	19.94	7
ATOM	87	CD	PRO	412	-19.915	36.918	21.361	1.00	21.08	6

ATOM	88	CA	PRO	412	-19.409	37.166	18.976	1.00	20.68	6
ATOM	89	CB	PRO	412	-20.455	38.210	19.397	1.00	19.82	6
ATOM	90	CG	PRO	412	-20.292	38.299	20.872	1.00	23.59	6
ATOM	91	C	PRO	412	-18.179	37.805	18.395	1.00	18.70	6
ATOM	92	O	PRO	412	-18.268	38.391	17.318	1.00	19.85	8
ATOM	93	N	TRP	413	-17.039	37.697	19.059	1.00	15.64	7
ATOM	94	CA	TRP	413	-15.815	38.298	18.561	1.00	17.91	6
ATOM	95	CB	TRP	413	-14.688	38.026	19.562	1.00	14.32	6
ATOM	96	CG	TRP	413	-15.124	38.117	21.006	1.00	16.77	6
ATOM	97	CD2	TRP	413	-15.633	39.254	21.703	1.00	16.90	6
ATOM	98	CE2	TRP	413	-15.899	38.861	23.032	1.00	16.87	6
ATOM	99	CE3	TRP	413	-15.867	40.587	21.350	1.00	18.03	6
ATOM	100	CD1	TRP	413	-15.106	37.097	21.916	1.00	18.97	6
ATOM	101	NE1	TRP	413	-15.589	37.523	23.137	1.00	11.16	7
ATOM	102	CZ2	TRP	413	-16.405	39.742	23.973	1.00	15.92	6
ATOM	103	CZ3	TRP	413	-16.358	41.457	22.301	1.00	10.59	6
ATOM	104	CH2	TRP	413	-16.645	41.041	23.611	1.00	17.87	6
ATOM	105	C	TRP	413	-15.421	37.833	17.163	1.00	19.47	6
ATOM	106	O	TRP	413	-15.283	36.628	16.908	1.00	17.22	8
ATOM	107	N	ILE	414	-15.101	38.788	16.275	1.00	16.57	7
ATOM	108	CA	ILE	414	-14.666	38.425	14.936	1.00	18.93	6
ATOM	109	CB	ILE	414	-15.185	39.343	13.816	1.00	16.07	6
ATOM	110	CG2	ILE	414	-16.720	39.345	13.840	1.00	16.61	6
ATOM	111	CG1	ILE	414	-14.582	40.747	13.972	1.00	21.35	6
ATOM	112	CD1	ILE	414	-15.045	41.716	12.896	1.00	26.28	6
ATOM	113	C	ILE	414	-13.144	38.317	14.825	1.00	20.48	6
ATOM	114	O	ILE	414	-12.652	37.818	13.817	1.00	19.41	8
ATOM	115	N	ASN	415	-12.403	38.779	15.836	1.00	19.46	7
ATOM	116	CA	ASN	415	-10.935	38.596	15.778	1.00	18.11	6
ATOM	117	CB	ASN	415	-10.161	39.904	15.731	1.00	13.53	6
ATOM	118	CG	ASN	415	-10.591	40.920	16.762	1.00	19.11	6
ATOM	119	OD1	ASN	415	-11.728	40.907	17.227	1.00	13.35	8
ATOM	120	ND2	ASN	415	-9.688	41.833	17.142	1.00	10.11	7
ATOM	121	C	ASN	415	-10.632	37.742	17.005	1.00	17.54	6
ATOM	122	O	ASN	415	-11.016	38.131	18.111	1.00	15.32	8
ATOM	123	N	VAL	416	-10.122	36.535	16.805	1.00	16.86	7
ATOM	124	CA	VAL	416	-9.871	35.593	17.893	1.00	15.77	6
ATOM	125	CB	VAL	416	-10.761	34.332	17.748	1.00	16.54	6
ATOM	126	CG1	VAL	416	-12.251	34.725	17.733	1.00	13.42	6
ATOM	127	CG2	VAL	416	-10.490	33.521	16.491	1.00	18.04	6
ATOM	128	C	VAL	416	-8.420	35.158	17.921	1.00	19.01	6
ATOM	129	O	VAL	416	-7.618	35.485	17.010	1.00	17.12	8
ATOM	130	N	LEU	417	-8.022	34.444	18.964	1.00	17.68	7
ATOM	131	CA	LEU	417	-6.664	33.904	19.068	1.00	15.11	6
ATOM	132	CB	LEU	417	-6.162	34.140	20.522	1.00	20.26	6
ATOM	133	CG	LEU	417	-5.873	35.615	20.823	1.00	23.07	6
ATOM	134	CD1	LEU	417	-5.447	35.853	22.253	1.00	17.70	6
ATOM	135	CD2	LEU	417	-4.832	36.152	19.855	1.00	26.74	6
ATOM	136	C	LEU	417	-6.563	32.427	18.732	1.00	16.37	6
ATOM	137	O	LEU	417	-7.518	31.679	18.961	1.00	18.24	8
ATOM	138	N	GLN	418	-5.424	31.935	18.227	1.00	18.55	7
ATOM	139	CA	GLN	418	-5.237	30.496	18.032	1.00	19.13	6
ATOM	140	CB	GLN	418	-3.790	30.145	17.696	1.00	31.65	6
ATOM	141	CG	GLN	418	-3.510	29.617	16.314	1.00	37.32	6
ATOM	142	CD	GLN	418	-2.120	29.964	15.800	1.00	36.92	6
ATOM	143	OE1	GLN	418	-1.953	30.834	14.943	1.00	30.97	8
ATOM	144	NE2	GLN	418	-1.135	29.248	16.333	1.00	31.73	7
ATOM	145	C	GLN	418	-5.561	29.789	19.348	1.00	19.43	6
ATOM	146	O	GLN	418	-5.194	30.298	20.413	1.00	18.10	8
ATOM	147	N	GLU	419	-6.317	28.702	19.232	1.00	19.68	7
ATOM	148	CA	GLU	419	-6.727	27.821	20.293	1.00	18.88	6
ATOM	149	CB	GLU	419	-5.597	27.525	21.293	1.00	27.39	6
ATOM	150	CG	GLU	419	-4.649	26.448	20.714	1.00	30.12	6

ATOM	151	CD	GLU	419	-3.558	26.167	21.720	1.00	41.87	6
ATOM	152	OE1	GLU	419	-3.857	25.536	22.758	1.00	48.83	8
ATOM	153	OE2	GLU	419	-2.421	26.594	21.464	1.00	46.61	8
ATOM	154	C	GLU	419	-8.004	28.244	20.998	1.00	21.46	6
ATOM	155	O	GLU	419	-8.496	27.461	21.815	1.00	26.39	8
ATOM	156	N	ASP	420	-8.606	29.360	20.619	1.00	19.91	7
ATOM	157	CA	ASP	420	-9.898	29.772	21.114	1.00	20.76	6
ATOM	158	CB	ASP	420	-10.285	31.217	20.726	1.00	13.47	6
ATOM	159	CG	ASP	420	-9.587	32.288	21.526	1.00	13.93	6
ATOM	160	OD1	ASP	420	-8.873	32.061	22.534	1.00	17.57	8
ATOM	161	OD2	ASP	420	-9.723	33.461	21.104	1.00	13.79	8
ATOM	162	C	ASP	420	-11.002	28.916	20.451	1.00	19.58	6
ATOM	163	O	ASP	420	-10.913	28.647	19.262	1.00	17.49	8
ATOM	164	N	SER	421	-12.071	28.668	21.174	1.00	17.22	7
ATOM	165	CA	SER	421	-13.233	27.937	20.659	1.00	17.62	6
ATOM	166	CBA	SER	421	-14.011	27.341	21.844	0.50	17.49	6
ATOM	167	CBB	SER	421	-13.981	27.310	21.846	0.50	13.14	6
ATOM	168	OGA	SER	421	-14.900	26.350	21.355	0.50	22.95	8
ATOM	169	OGB	SER	421	-13.175	26.287	22.416	0.50	6.85	8
ATOM	170	C	SER	421	-14.181	28.828	19.873	1.00	18.61	6
ATOM	171	O	SER	421	-14.424	29.982	20.265	1.00	21.41	8
ATOM	172	N	VAL	422	-14.638	28.354	18.721	1.00	15.80	7
ATOM	173	CA	VAL	422	-15.585	29.133	17.910	1.00	17.93	6
ATOM	174	CB	VAL	422	-15.052	29.632	16.560	1.00	20.37	6
ATOM	175	CG1	VAL	422	-16.093	30.465	15.804	1.00	17.77	6
ATOM	176	CG2	VAL	422	-13.858	30.566	16.679	1.00	17.26	6
ATOM	177	C	VAL	422	-16.822	28.257	17.665	1.00	19.20	6
ATOM	178	O	VAL	422	-16.633	27.097	17.291	1.00	18.52	8
ATOM	179	N	THR	423	-18.021	28.759	17.917	1.00	16.32	7
ATOM	180	CA	THR	423	-19.249	28.043	17.648	1.00	19.99	6
ATOM	181	CB	THR	423	-20.080	27.738	18.911	1.00	22.97	6
ATOM	182	OG1	THR	423	-19.192	27.117	19.850	1.00	18.42	8
ATOM	183	CG2	THR	423	-21.241	26.809	18.614	1.00	16.78	6
ATOM	184	C	THR	423	-20.098	28.850	16.658	1.00	24.68	6
ATOM	185	O	THR	423	-20.509	29.986	16.897	1.00	22.59	8
ATOM	186	N	LEU	424	-20.257	28.248	15.467	1.00	23.73	7
ATOM	187	CA	LEU	424	-21.081	28.815	14.423	1.00	23.11	6
ATOM	188	CB	LEU	424	-20.427	28.660	13.046	1.00	20.25	6
ATOM	189	CG	LEU	424	-19.053	29.386	12.959	1.00	23.95	6
ATOM	190	CD1	LEU	424	-18.324	29.010	11.681	1.00	20.78	6
ATOM	191	CD2	LEU	424	-19.251	30.881	13.049	1.00	22.74	6
ATOM	192	C	LEU	424	-22.444	28.103	14.450	1.00	25.87	6
ATOM	193	O	LEU	424	-22.470	26.858	14.537	1.00	24.57	8
ATOM	194	N	THR	425	-23.520	28.886	14.367	1.00	20.22	7
ATOM	195	CA	THR	425	-24.847	28.266	14.336	1.00	23.21	6
ATOM	196	CB	THR	425	-25.656	28.601	15.597	1.00	27.69	6
ATOM	197	OG1	THR	425	-24.945	28.136	16.755	1.00	26.30	8
ATOM	198	CG2	THR	425	-27.041	27.941	15.590	1.00	28.49	6
ATOM	199	C	THR	425	-25.604	28.700	13.075	1.00	22.31	6
ATOM	200	O	THR	425	-25.706	29.915	12.819	1.00	23.86	8
ATOM	201	N	CYS	426	-26.092	27.732	12.307	1.00	18.68	7
ATOM	202	CA	CYS	426	-26.832	27.978	11.075	1.00	23.20	6
ATOM	203	C	CYS	426	-28.345	27.956	11.346	1.00	23.06	6
ATOM	204	O	CYS	426	-28.957	26.886	11.556	1.00	23.76	8
ATOM	205	CB	CYS	426	-26.509	26.985	9.958	1.00	17.92	6
ATOM	206	SG	CYS	426	-27.138	27.508	8.311	1.00	22.25	16
ATOM	207	N	GLN	427	-28.929	29.137	11.355	1.00	19.35	7
ATOM	208	CA	GLN	427	-30.332	29.345	11.658	1.00	23.30	6
ATOM	209	CB	GLN	427	-30.543	30.657	12.464	1.00	29.78	6
ATOM	210	CG	GLN	427	-29.623	30.822	13.672	1.00	31.50	6
ATOM	211	CD	GLN	427	-29.927	32.038	14.518	1.00	33.01	6
ATOM	212	OE1	GLN	427	-30.322	33.092	14.032	1.00	38.67	8
ATOM	213	NE2	GLN	427	-29.792	31.971	15.834	1.00	36.36	7

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ATOM    214  C   GLN  427     -31.169  29.449  10.377  1.00 26.33   6
ATOM    215  O   GLN  427     -30.764  30.010   9.347  1.00 23.15   8
ATOM    216  N   GLY  428     -32.363  28.847  10.438  1.00 27.69   7
ATOM    217  CA  GLY  428     -33.289  28.847   9.313  1.00 28.02   6
ATOM    218  C   GLY  428     -34.022  27.506   9.215  1.00 29.41   6
ATOM    219  O   GLY  428     -33.639  26.531   9.862  1.00 28.46   8
ATOM    220  N   ALA  429     -35.062  27.445   8.389  1.00 27.48   7
ATOM    221  CA  ALA  429     -35.824  26.226   8.210  1.00 27.39   6
ATOM    222  CB  ALA  429     -36.979  26.513   7.239  1.00 25.91   6
ATOM    223  C   ALA  429     -34.959  25.136   7.574  1.00 28.27   6
ATOM    224  O   ALA  429     -34.315  25.451   6.561  1.00 26.07   8
ATOM    225  N   ARG  430     -35.060  23.915   8.064  1.00 23.97   7
ATOM    226  CA  ARG  430     -34.303  22.811   7.490  1.00 27.17   6
ATOM    227  CB  ARG  430     -33.571  22.043   8.601  1.00 30.34   6
ATOM    228  CG  ARG  430     -32.574  22.776   9.460  1.00 34.05   6
ATOM    229  CD  ARG  430     -32.365  21.986  10.761  1.00 33.86   6
ATOM    230  NE  ARG  430     -32.407  22.964  11.836  1.00 38.60   7
ATOM    231  CZ  ARG  430     -32.487  22.784  13.126  1.00 38.08   6
ATOM    232  NH1 ARG  430     -32.567  21.568  13.635  1.00 36.51   7
ATOM    233  NH2 ARG  430     -32.467  23.876  13.879  1.00 46.13   7
ATOM    234  C   ARG  430     -35.194  21.718   6.880  1.00 26.70   6
ATOM    235  O   ARG  430     -36.399  21.724   7.075  1.00 29.22   8
ATOM    236  N   SER  431     -34.573  20.737   6.246  1.00 26.85   7
ATOM    237  CA  SER  431     -35.315  19.582   5.738  1.00 26.56   6
ATOM    238  CB  SER  431     -34.682  19.020   4.476  1.00 25.03   6
ATOM    239  OG  SER  431     -34.562  19.991   3.477  1.00 27.59   8
ATOM    240  C   SER  431     -35.273  18.545   6.861  1.00 26.58   6
ATOM    241  O   SER  431     -34.396  18.620   7.739  1.00 23.91   8
ATOM    242  N   PRO  432     -36.163  17.558   6.839  1.00 23.48   7
ATOM    243  CD  PRO  432     -37.224  17.383   5.842  1.00 22.70   6
ATOM    244  CA  PRO  432     -36.176  16.516   7.861  1.00 24.75   6
ATOM    245  CB  PRO  432     -37.621  16.036   7.805  1.00 24.34   6
ATOM    246  CG  PRO  432     -38.095  16.295   6.414  1.00 23.77   6
ATOM    247  C   PRO  432     -35.172  15.417   7.549  1.00 29.23   6
ATOM    248  O   PRO  432     -35.472  14.257   7.223  1.00 28.28   8
ATOM    249  N   GLU  433     -33.913  15.745   7.709  1.00 29.77   7
ATOM    250  CA  GLU  433     -32.725  14.970   7.417  1.00 33.37   6
ATOM    251  CBA GLU  433     -32.177  15.440   6.073  0.50 35.18   6
ATOM    252  CBB GLU  433     -32.123  15.409   6.084  0.50 31.98   6
ATOM    253  CGA GLU  433     -30.795  16.037   5.952  0.50 39.40   6
ATOM    254  CGB GLU  433     -31.776  16.876   5.954  0.50 34.05   6
ATOM    255  CDA GLU  433     -30.394  16.341   4.521  0.50 46.48   6
ATOM    256  CDB GLU  433     -31.601  17.333   4.517  0.50 34.67   6
ATOM    257  OE1 GLU  433     -29.268  16.010   4.076  0.50 49.23   8
ATOM    258  OE1 GLU  433     -32.194  16.698   3.619  0.50 32.81   8
ATOM    259  OE2 GLU  433     -31.232  16.914   3.788  0.50 47.50   8
ATOM    260  OE2 GLU  433     -30.877  18.324   4.275  0.50 24.64   8
ATOM    261  C   GLU  433     -31.683  15.177   8.519  1.00 32.61   6
ATOM    262  O   GLU  433     -31.612  16.266   9.085  1.00 28.72   8
ATOM    263  N   SER  434     -30.844  14.184   8.743  1.00 32.15   7
ATOM    264  CA  SER  434     -29.804  14.275   9.764  1.00 32.72   6
ATOM    265  CB  SER  434     -29.277  12.853  10.037  1.00 34.26   6
ATOM    266  OG  SER  434     -28.320  12.935  11.093  1.00 45.88   8
ATOM    267  C   SER  434     -28.668  15.192   9.332  1.00 30.93   6
ATOM    268  O   SER  434     -28.156  15.983  10.124  1.00 28.87   8
ATOM    269  N   ASP  435     -28.222  15.093   8.082  1.00 28.02   7
ATOM    270  CA  ASP  435     -27.167  16.008   7.599  1.00 28.62   6
ATOM    271  CB  ASP  435     -26.292  15.328   6.585  1.00 29.65   6
ATOM    272  CG  ASP  435     -25.357  14.227   7.057  1.00 37.43   6
ATOM    273  OD1 ASP  435     -25.027  14.097   8.258  1.00 33.53   8
ATOM    274  OD2 ASP  435     -24.902  13.470   6.154  1.00 36.01   8
ATOM    275  C   ASP  435     -27.882  17.223   6.973  1.00 27.08   6
ATOM    276  O   ASP  435     -27.997  17.300   5.756  1.00 28.07   8
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ATOM	277	N	SER	436	-28.461	18.118	7.774	1.00	25.55	7
ATOM	278	CA	SER	436	-29.282	19.186	7.225	1.00	27.45	6
ATOM	279	CB	SER	436	-30.440	19.435	8.213	1.00	34.87	6
ATOM	280	OG	SER	436	-29.973	20.064	9.405	1.00	39.51	8
ATOM	281	C	SER	436	-28.558	20.484	6.890	1.00	27.14	6
ATOM	282	O	SER	436	-29.143	21.445	6.363	1.00	25.67	8
ATOM	283	N	ILE	437	-27.293	20.643	7.231	1.00	24.64	7
ATOM	284	CA	ILE	437	-26.580	21.893	6.977	1.00	24.33	6
ATOM	285	CB	ILE	437	-26.164	22.559	8.309	1.00	30.71	6
ATOM	286	CG2	ILE	437	-25.561	23.935	8.032	1.00	26.94	6
ATOM	287	CG1	ILE	437	-27.333	22.645	9.308	1.00	21.66	6
ATOM	288	CD1	ILE	437	-28.443	23.588	8.867	1.00	27.66	6
ATOM	289	C	ILE	437	-25.336	21.707	6.128	1.00	24.08	6
ATOM	290	O	ILE	437	-24.515	20.833	6.390	1.00	23.50	8
ATOM	291	N	GLN	438	-25.122	22.552	5.127	1.00	24.52	7
ATOM	292	CA	GLN	438	-23.862	22.570	4.399	1.00	23.13	6
ATOM	293	CB	GLN	438	-24.016	22.798	2.905	1.00	29.28	6
ATOM	294	CG	GLN	438	-24.458	21.570	2.123	1.00	29.86	6
ATOM	295	CD	GLN	438	-24.692	21.901	0.661	1.00	33.48	6
ATOM	296	OE1	GLN	438	-25.540	22.744	0.323	1.00	28.34	8
ATOM	297	NE2	GLN	438	-23.922	21.198	-0.177	1.00	38.54	7
ATOM	298	C	GLN	438	-23.048	23.738	4.985	1.00	23.81	6
ATOM	299	O	GLN	438	-23.598	24.844	5.087	1.00	22.62	8
ATOM	300	N	TRP	439	-21.807	23.480	5.371	1.00	21.43	7
ATOM	301	CA	TRP	439	-20.987	24.562	5.905	1.00	21.73	6
ATOM	302	CB	TRP	439	-20.345	24.233	7.257	1.00	21.01	6
ATOM	303	CG	TRP	439	-21.264	24.233	8.430	1.00	17.58	6
ATOM	304	CD2	TRP	439	-21.721	25.343	9.212	1.00	17.00	6
ATOM	305	CE2	TRP	439	-22.569	24.833	10.220	1.00	16.71	6
ATOM	306	CE3	TRP	439	-21.495	26.719	9.158	1.00	21.47	6
ATOM	307	CD1	TRP	439	-21.844	23.116	8.974	1.00	19.92	6
ATOM	308	NE1	TRP	439	-22.626	23.466	10.061	1.00	22.18	7
ATOM	309	CZ2	TRP	439	-23.218	25.646	11.152	1.00	18.29	6
ATOM	310	CZ3	TRP	439	-22.109	27.537	10.091	1.00	21.62	6
ATOM	311	CH2	TRP	439	-22.960	26.992	11.064	1.00	20.15	6
ATOM	312	C	TRP	439	-19.890	24.873	4.898	1.00	22.76	6
ATOM	313	O	TRP	439	-19.407	23.941	4.238	1.00	23.42	8
ATOM	314	N	PHE	440	-19.533	26.165	4.758	1.00	22.91	7
ATOM	315	CA	PHE	440	-18.512	26.477	3.754	1.00	26.86	6
ATOM	316	CB	PHE	440	-19.121	27.144	2.513	1.00	24.16	6
ATOM	317	CG	PHE	440	-20.225	26.437	1.788	1.00	23.96	6
ATOM	318	CD1	PHE	440	-21.551	26.586	2.189	1.00	23.61	6
ATOM	319	CD2	PHE	440	-19.945	25.622	0.696	1.00	22.47	6
ATOM	320	CE1	PHE	440	-22.564	25.947	1.504	1.00	20.83	6
ATOM	321	CE2	PHE	440	-20.967	24.986	0.020	1.00	21.69	6
ATOM	322	CZ	PHE	440	-22.267	25.126	0.432	1.00	21.86	6
ATOM	323	C	PHE	440	-17.466	27.431	4.349	1.00	23.51	6
ATOM	324	O	PHE	440	-17.838	28.278	5.151	1.00	21.94	8
ATOM	325	N	HIS	441	-16.232	27.291	3.905	1.00	21.59	7
ATOM	326	CA	HIS	441	-15.107	28.095	4.366	1.00	24.07	6
ATOM	327	CB	HIS	441	-14.032	27.294	5.099	1.00	18.72	6
ATOM	328	CG	HIS	441	-12.864	28.139	5.548	1.00	23.41	6
ATOM	329	CD2	HIS	441	-12.794	29.451	5.899	1.00	21.85	6
ATOM	330	ND1	HIS	441	-11.588	27.648	5.709	1.00	21.97	7
ATOM	331	CE1	HIS	441	-10.789	28.607	6.135	1.00	22.79	6
ATOM	332	NE2	HIS	441	-11.504	29.705	6.268	1.00	21.87	7
ATOM	333	C	HIS	441	-14.455	28.703	3.115	1.00	21.83	6
ATOM	334	O	HIS	441	-13.972	27.947	2.282	1.00	21.37	8
ATOM	335	N	ASN	442	-14.576	30.019	2.959	1.00	22.08	7
ATOM	336	CA	ASN	442	-14.077	30.670	1.726	1.00	20.46	6
ATOM	337	CB	ASN	442	-12.562	30.544	1.722	1.00	18.21	6
ATOM	338	CG	ASN	442	-11.925	31.469	2.761	1.00	22.74	6
ATOM	339	OD1	ASN	442	-12.473	32.523	3.087	1.00	24.40	8

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ATOM    340  ND2 ASN   442     -10.804  31.062   3.341  1.00 18.43   7
ATOM    341  C   ASN   442     -14.733  30.055   0.488  1.00 21.32   6
ATOM    342  O   ASN   442     -14.085  29.819  -0.533  1.00 20.13   8
ATOM    343  N   GLY   443     -16.002  29.646   0.568  1.00 20.53   7
ATOM    344  CA  GLY   443     -16.767  29.005  -0.480  1.00 20.83   6
ATOM    345  C   GLY   443     -16.586  27.506  -0.661  1.00 24.51   6
ATOM    346  O   GLY   443     -17.209  26.879  -1.550  1.00 25.30   8
ATOM    347  N   ASN   444     -15.633  26.896   0.051  1.00 21.27   7
ATOM    348  CA  ASN   444     -15.391  25.473  -0.112  1.00 20.46   6
ATOM    349  CB  ASN   444     -13.903  25.132   0.000  1.00 23.82   6
ATOM    350  CG  ASN   444     -13.049  26.032  -0.891  1.00 22.26   6
ATOM    351  OD1 ASN   444     -12.148  26.722  -0.409  1.00 25.47   8
ATOM    352  ND2 ASN   444     -13.382  26.079  -2.171  1.00 21.59   7
ATOM    353  C   ASN   444     -16.208  24.723   0.937  1.00 19.78   6
ATOM    354  O   ASN   444     -16.180  25.088   2.107  1.00 22.07   8
ATOM    355  N   LEU   445     -16.907  23.678   0.523  1.00 22.22   7
ATOM    356  CA  LEU   445     -17.730  22.904   1.459  1.00 21.67   6
ATOM    357  CB  LEU   445     -18.391  21.725   0.715  1.00 28.15   6
ATOM    358  CG  LEU   445     -19.159  20.695   1.538  1.00 29.14   6
ATOM    359  CD1 LEU   445     -20.479  21.295   2.002  1.00 25.07   6
ATOM    360  CD2 LEU   445     -19.452  19.400   0.775  1.00 28.51   6
ATOM    361  C   LEU   445     -16.825  22.307   2.525  1.00 22.27   6
ATOM    362  O   LEU   445     -15.748  21.869   2.118  1.00 20.13   8
ATOM    363  N   ILE   446     -17.263  22.262   3.766  1.00 20.11   7
ATOM    364  CA  ILE   446     -16.539  21.544   4.835  1.00 24.64   6
ATOM    365  CB  ILE   446     -16.657  22.358   6.132  1.00 22.24   6
ATOM    366  CG2 ILE   446     -16.007  21.732   7.358  1.00 21.33   6
ATOM    367  CG1 ILE   446     -16.111  23.794   5.945  1.00 20.74   6
ATOM    368  CD1 ILE   446     -16.664  24.719   7.024  1.00 20.48   6
ATOM    369  C   ILE   446     -17.351  20.241   5.006  1.00 25.53   6
ATOM    370  O   ILE   446     -18.419  20.266   5.624  1.00 22.91   8
ATOM    371  N   PRO   447     -16.937  19.119   4.444  1.00 30.56   7
ATOM    372  CD  PRO   447     -15.704  18.982   3.620  1.00 32.61   6
ATOM    373  CA  PRO   447     -17.731  17.898   4.434  1.00 30.93   6
ATOM    374  CB  PRO   447     -17.030  17.030   3.363  1.00 31.28   6
ATOM    375  CG  PRO   447     -15.610  17.466   3.441  1.00 32.54   6
ATOM    376  C   PRO   447     -17.888  17.104   5.706  1.00 28.32   6
ATOM    377  O   PRO   447     -18.733  16.196   5.747  1.00 29.24   8
ATOM    378  N   THR   448     -17.092  17.353   6.730  1.00 26.79   7
ATOM    379  CA  THR   448     -17.135  16.568   7.971  1.00 26.97   6
ATOM    380  CB  THR   448     -15.698  16.543   8.532  1.00 31.78   6
ATOM    381  OG1 THR   448     -15.241  17.908   8.520  1.00 31.45   8
ATOM    382  CG2 THR   448     -14.798  15.716   7.605  1.00 27.40   6
ATOM    383  C   THR   448     -18.075  17.109   9.021  1.00 26.31   6
ATOM    384  O   THR   448     -18.206  16.532  10.113  1.00 28.00   8
ATOM    385  N   HIS   449     -18.698  18.264   8.772  1.00 24.44   7
ATOM    386  CA  HIS   449     -19.612  18.924   9.707  1.00 24.19   6
ATOM    387  CB  HIS   449     -18.953  20.256  10.174  1.00 25.11   6
ATOM    388  CG  HIS   449     -17.722  19.927  10.961  1.00 22.20   6
ATOM    389  CD2 HIS   449     -16.430  19.757  10.624  1.00 27.86   6
ATOM    390  ND1 HIS   449     -17.809  19.641  12.306  1.00 29.80   7
ATOM    391  CE1 HIS   449     -16.595  19.340  12.762  1.00 28.91   6
ATOM    392  NE2 HIS   449     -15.748  19.392  11.761  1.00 25.35   7
ATOM    393  C   HIS   449     -20.923  19.278   9.041  1.00 23.08   6
ATOM    394  O   HIS   449     -20.942  20.061   8.075  1.00 20.57   8
ATOM    395  N   THR   450     -22.038  18.704   9.497  1.00 25.11   7
ATOM    396  CA  THR   450     -23.321  18.892   8.807  1.00 22.98   6
ATOM    397  CB  THR   450     -23.732  17.552   8.137  1.00 23.01   6
ATOM    398  OG1 THR   450     -23.843  16.614   9.231  1.00 18.66   8
ATOM    399  CG2 THR   450     -22.757  17.049   7.101  1.00 19.07   6
ATOM    400  C   THR   450     -24.460  19.221   9.766  1.00 24.61   6
ATOM    401  O   THR   450     -25.640  19.094   9.393  1.00 26.17   8
ATOM    402  N   GLN   451     -24.126  19.592  10.985  1.00 24.52   7
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ATOM    403  CA  GLN   451     -25.132  19.887  11.995  1.00 27.31   6
ATOM    404  CB  GLN   451     -24.708  19.361  13.378  1.00 28.63   6
ATOM    405  CG  GLN   451     -24.438  17.852  13.378  1.00 32.81   6
ATOM    406  CD  GLN   451     -25.677  17.056  12.995  1.00 38.53   6
ATOM    407  OE1 GLN   451     -26.606  16.914  13.802  1.00 37.60   8
ATOM    408  NE2 GLN   451     -25.724  16.535  11.765  1.00 32.79   7
ATOM    409  C   GLN   451     -25.411  21.379  12.101  1.00 26.69   6
ATOM    410  O   GLN   451     -24.626  22.230  11.689  1.00 26.27   8
ATOM    411  N   PRO   452     -26.510  21.728  12.769  1.00 25.16   7
ATOM    412  CD  PRO   452     -27.553  20.775  13.270  1.00 24.54   6
ATOM    413  CA  PRO   452     -26.917  23.103  12.974  1.00 25.24   6
ATOM    414  CB  PRO   452     -28.264  22.978  13.708  1.00 26.09   6
ATOM    415  CG  PRO   452     -28.804  21.649  13.257  1.00 23.35   6
ATOM    416  C   PRO   452     -25.900  23.951  13.722  1.00 25.71   6
ATOM    417  O   PRO   452     -25.877  25.179  13.542  1.00 21.61   8
ATOM    418  N   SER   453     -25.044  23.369  14.556  1.00 24.05   7
ATOM    419  CA  SER   453     -23.991  24.093  15.239  1.00 25.63   6
ATOM    420  CB  SER   453     -24.105  24.155  16.758  1.00 31.86   6
ATOM    421  OG  SER   453     -24.778  25.371  17.094  1.00 42.46   8
ATOM    422  C   SER   453     -22.681  23.406  14.854  1.00 24.85   6
ATOM    423  O   SER   453     -22.681  22.193  14.691  1.00 23.68   8
ATOM    424  N   TYR   454     -21.658  24.177  14.614  1.00 24.52   7
ATOM    425  CA  TYR   454     -20.333  23.699  14.212  1.00 26.29   6
ATOM    426  CB  TYR   454     -20.050  23.980  12.729  1.00 26.92   6
ATOM    427  CG  TYR   454     -18.612  23.868  12.274  1.00 30.15   6
ATOM    428  CD1 TYR   454     -17.719  22.961  12.825  1.00 29.18   6
ATOM    429  CE1 TYR   454     -16.407  22.860  12.409  1.00 31.26   6
ATOM    430  CD2 TYR   454     -18.104  24.700  11.280  1.00 31.67   6
ATOM    431  CE2 TYR   454     -16.796  24.649  10.855  1.00 31.66   6
ATOM    432  CZ  TYR   454     -15.950  23.715  11.429  1.00 33.63   6
ATOM    433  OH  TYR   454     -14.624  23.647  11.038  1.00 34.53   8
ATOM    434  C   TYR   454     -19.378  24.416  15.167  1.00 24.84   6
ATOM    435  O   TYR   454     -19.300  25.656  15.129  1.00 22.53   8
ATOM    436  N   ARG   455     -18.773  23.685  16.070  1.00 21.66   7
ATOM    437  CA  ARG   455     -17.864  24.216  17.070  1.00 23.60   6
ATOM    438  CB  ARG   455     -18.242  23.709  18.480  1.00 25.95   6
ATOM    439  CG  ARG   455     -17.478  24.526  19.551  1.00 23.98   6
ATOM    440  CD  ARG   455     -17.651  23.884  20.918  1.00 35.38   6
ATOM    441  NE  ARG   455     -16.821  24.501  21.956  1.00 27.47   7
ATOM    442  CZ  ARG   455     -17.278  25.336  22.879  1.00 33.10   6
ATOM    443  NH1 ARG   455     -18.570  25.657  22.904  1.00 30.00   7
ATOM    444  NH2 ARG   455     -16.418  25.817  23.778  1.00 32.66   7
ATOM    445  C   ARG   455     -16.434  23.763  16.802  1.00 27.49   6
ATOM    446  O   ARG   455     -16.275  22.554  16.569  1.00 22.62   8
ATOM    447  N   PHE   456     -15.455  24.692  16.781  1.00 23.78   7
ATOM    448  CA  PHE   456     -14.092  24.230  16.510  1.00 21.92   6
ATOM    449  CB  PHE   456     -13.716  24.371  15.036  1.00 25.99   6
ATOM    450  CG  PHE   456     -13.819  25.735  14.386  1.00 20.84   6
ATOM    451  CD1 PHE   456     -15.019  26.213  13.897  1.00 21.33   6
ATOM    452  CD2 PHE   456     -12.705  26.547  14.264  1.00 20.31   6
ATOM    453  CE1 PHE   456     -15.103  27.451  13.283  1.00 21.52   6
ATOM    454  CE2 PHE   456     -12.768  27.789  13.680  1.00 18.36   6
ATOM    455  CZ  PHE   456     -13.973  28.250  13.159  1.00 18.38   6
ATOM    456  C   PHE   456     -13.095  25.004  17.372  1.00 23.93   6
ATOM    457  O   PHE   456     -13.454  26.033  17.921  1.00 22.42   8
ATOM    458  N   LYS   457     -11.865  24.526  17.423  1.00 22.46   7
ATOM    459  CA  LYS   457     -10.735  25.207  18.054  1.00 24.34   6
ATOM    460  CBA LYS   457      -9.892  24.246  18.881  0.50 28.51   6
ATOM    461  CBB LYS   457      -9.822  24.139  18.669  0.50 22.87   6
ATOM    462  CGA LYS   457     -10.656  23.568  20.010  0.50 33.64   6
ATOM    463  CGB LYS   457      -8.769  24.658  19.632  0.50 24.29   6
ATOM    464  CDA LYS   457     -11.436  24.524  20.892  0.50 40.75   6
ATOM    465  CDB LYS   457      -8.631  23.680  20.798  0.50 26.90   6
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ATOM	466	CEA	LYS	457	-12.612	23.876	21.603	0.50	43.07	6
ATOM	467	CEB	LYS	457	-9.138	24.262	22.092	0.50	29.79	6
ATOM	468	NZA	LYS	457	-12.703	24.236	23.044	0.50	51.71	7
ATOM	469	NZB	LYS	457	-8.050	24.601	23.060	0.50	36.22	7
ATOM	470	C	LYS	457	-9.950	25.943	16.969	1.00	21.30	6
ATOM	471	O	LYS	457	-9.436	25.315	16.052	1.00	19.46	8
ATOM	472	N	ALA	458	-9.928	27.278	16.945	1.00	18.23	7
ATOM	473	CA	ALA	458	-9.341	28.002	15.821	1.00	15.74	6
ATOM	474	CB	ALA	458	-9.612	29.505	16.094	1.00	9.09	6
ATOM	475	C	ALA	458	-7.841	27.832	15.614	1.00	20.26	6
ATOM	476	O	ALA	458	-7.067	27.802	16.574	1.00	18.04	8
ATOM	477	N	ASN	459	-7.392	27.740	14.367	1.00	18.31	7
ATOM	478	CA	ASN	459	-5.986	27.795	14.019	1.00	23.04	6
ATOM	479	CB	ASN	459	-5.222	26.565	13.612	1.00	32.39	6
ATOM	480	CG	ASN	459	-5.880	25.223	13.665	1.00	38.26	6
ATOM	481	OD1	ASN	459	-5.855	24.587	14.716	1.00	42.50	8
ATOM	482	ND2	ASN	459	-6.426	24.800	12.529	1.00	43.39	7
ATOM	483	C	ASN	459	-5.825	28.814	12.867	1.00	24.07	6
ATOM	484	O	ASN	459	-6.794	29.390	12.365	1.00	21.25	8
ATOM	485	N	ASN	460	-4.582	29.033	12.484	1.00	24.40	7
ATOM	486	CA	ASN	460	-4.192	30.043	11.519	1.00	31.47	6
ATOM	487	CB	ASN	460	-2.680	29.973	11.234	1.00	31.46	6
ATOM	488	CGA	ASN	460	-2.272	31.090	10.274	0.50	31.26	6
ATOM	489	CGB	ASN	460	-2.221	28.594	10.814	0.50	35.72	6
ATOM	490	OD1	ASN	460	-2.337	32.284	10.597	0.50	22.52	8
ATOM	491	OD1	ASN	460	-2.985	27.626	10.768	0.50	33.04	8
ATOM	492	ND2	ASN	460	-1.863	30.691	9.070	0.50	26.04	7
ATOM	493	ND2	ASN	460	-0.932	28.475	10.483	0.50	39.47	7
ATOM	494	C	ASN	460	-5.006	29.923	10.234	1.00	29.05	6
ATOM	495	O	ASN	460	-5.645	30.880	9.780	1.00	32.27	8
ATOM	496	N	ASN	461	-5.098	28.713	9.710	1.00	30.20	7
ATOM	497	CAA	ASN	461	-5.863	28.379	8.529	0.50	28.68	6
ATOM	498	CAB	ASN	461	-5.857	28.499	8.477	0.50	29.13	6
ATOM	499	CBA	ASN	461	-5.564	26.911	8.150	0.50	26.19	6
ATOM	500	CBB	ASN	461	-5.403	27.195	7.806	0.50	30.25	6
ATOM	501	CGA	ASN	461	-4.101	26.739	7.792	0.50	27.01	6
ATOM	502	CGB	ASN	461	-5.608	25.984	8.678	0.50	32.36	6
ATOM	503	OD1	ASN	461	-3.502	25.741	8.184	0.50	28.58	8
ATOM	504	OD1	ASN	461	-6.383	26.046	9.637	0.50	33.38	8
ATOM	505	ND2	ASN	461	-3.526	27.694	7.071	0.50	34.39	7
ATOM	506	ND2	ASN	461	-4.927	24.875	8.384	0.50	33.52	7
ATOM	507	C	ASN	461	-7.371	28.530	8.628	1.00	25.33	6
ATOM	508	O	ASN	461	-8.030	28.331	7.617	1.00	21.46	8
ATOM	509	N	ASP	462	-7.932	28.888	9.767	1.00	24.89	7
ATOM	510	CA	ASP	462	-9.373	29.024	9.941	1.00	21.37	6
ATOM	511	CB	ASP	462	-9.749	28.582	11.372	1.00	16.89	6
ATOM	512	CG	ASP	462	-9.620	27.084	11.538	1.00	26.20	6
ATOM	513	OD1	ASP	462	-9.824	26.317	10.570	1.00	20.81	8
ATOM	514	OD2	ASP	462	-9.276	26.593	12.611	1.00	17.90	8
ATOM	515	C	ASP	462	-9.887	30.427	9.645	1.00	18.69	6
ATOM	516	O	ASP	462	-11.104	30.657	9.654	1.00	20.50	8
ATOM	517	N	SER	463	-9.011	31.389	9.394	1.00	19.81	7
ATOM	518	CA	SER	463	-9.434	32.734	9.015	1.00	19.84	6
ATOM	519	CB	SER	463	-8.268	33.702	8.811	1.00	22.04	6
ATOM	520	OG	SER	463	-7.506	33.848	10.009	1.00	20.02	8
ATOM	521	C	SER	463	-10.196	32.662	7.682	1.00	23.89	6
ATOM	522	O	SER	463	-10.015	31.706	6.911	1.00	17.92	8
ATOM	523	N	GLY	464	-11.056	33.671	7.467	1.00	19.50	7
ATOM	524	CA	GLY	464	-11.769	33.675	6.190	1.00	22.23	6
ATOM	525	C	GLY	464	-13.272	33.901	6.340	1.00	19.81	6
ATOM	526	O	GLY	464	-13.744	34.302	7.399	1.00	18.93	8
ATOM	527	N	GLU	465	-13.980	33.640	5.238	1.00	17.01	7
ATOM	528	CA	GLU	465	-15.428	33.853	5.269	1.00	21.39	6

ATOM	529	CBA	GLU	465	-15.934	34.304	3.901	0.50	13.64	6
ATOM	530	CBB	GLU	465	-15.933	34.420	3.947	0.50	23.81	6
ATOM	531	CGA	GLU	465	-16.507	35.708	3.813	0.50	15.71	6
ATOM	532	CGB	GLU	465	-15.409	35.807	3.602	0.50	32.15	6
ATOM	533	CDA	GLU	465	-16.656	36.187	2.381	0.50	22.33	6
ATOM	534	CDB	GLU	465	-15.898	36.901	4.520	0.50	40.56	6
ATOM	535	OE1	GLU	465	-17.428	35.603	1.586	0.50	22.70	8
ATOM	536	OE1	GLU	465	-16.578	36.595	5.525	0.50	41.83	8
ATOM	537	OE2	GLU	465	-15.991	37.180	2.014	0.50	31.04	8
ATOM	538	OE2	GLU	465	-15.624	38.108	4.278	0.50	46.02	8
ATOM	539	C	GLU	465	-16.155	32.542	5.593	1.00	21.56	6
ATOM	540	O	GLU	465	-15.756	31.541	5.007	1.00	21.41	8
ATOM	541	N	TYR	466	-17.172	32.598	6.458	1.00	21.38	7
ATOM	542	CA	TYR	466	-17.966	31.383	6.691	1.00	17.91	6
ATOM	543	CB	TYR	466	-17.954	30.882	8.129	1.00	17.39	6
ATOM	544	CG	TYR	466	-16.620	30.303	8.534	1.00	18.08	6
ATOM	545	CD1	TYR	466	-15.605	31.180	8.957	1.00	18.56	6
ATOM	546	CE1	TYR	466	-14.369	30.719	9.323	1.00	16.48	6
ATOM	547	CD2	TYR	466	-16.348	28.945	8.485	1.00	18.23	6
ATOM	548	CE2	TYR	466	-15.102	28.484	8.867	1.00	18.37	6
ATOM	549	CZ	TYR	466	-14.124	29.350	9.279	1.00	18.98	6
ATOM	550	OH	TYR	466	-12.872	28.927	9.624	1.00	14.14	8
ATOM	551	C	TYR	466	-19.379	31.635	6.212	1.00	13.96	6
ATOM	552	O	TYR	466	-19.923	32.731	6.353	1.00	18.14	8
ATOM	553	N	THR	467	-20.010	30.638	5.568	1.00	17.95	7
ATOM	554	CA	THR	467	-21.374	30.728	5.117	1.00	18.06	6
ATOM	555	CB	THR	467	-21.514	31.022	3.599	1.00	22.52	6
ATOM	556	OG1	THR	467	-20.669	30.129	2.835	1.00	16.85	8
ATOM	557	CG2	THR	467	-21.215	32.495	3.309	1.00	17.46	6
ATOM	558	C	THR	467	-22.044	29.358	5.384	1.00	18.76	6
ATOM	559	O	THR	467	-21.354	28.351	5.567	1.00	17.47	8
ATOM	560	N	CYS	468	-23.354	29.326	5.389	1.00	19.74	7
ATOM	561	CA	CYS	468	-24.099	28.074	5.597	1.00	23.50	6
ATOM	562	C	CYS	468	-25.382	28.107	4.758	1.00	23.12	6
ATOM	563	O	CYS	468	-25.791	29.154	4.279	1.00	25.07	8
ATOM	564	CB	CYS	468	-24.434	27.784	7.055	1.00	18.70	6
ATOM	565	SG	CYS	468	-25.675	28.881	7.798	1.00	23.45	16
ATOM	566	N	GLN	469	-25.975	26.946	4.534	1.00	24.47	7
ATOM	567	CA	GLN	469	-27.174	26.745	3.770	1.00	24.99	6
ATOM	568	CB	GLN	469	-26.909	26.522	2.264	1.00	27.22	6
ATOM	569	CG	GLN	469	-28.155	26.809	1.419	1.00	25.14	6
ATOM	570	CD	GLN	469	-27.857	26.844	-0.065	1.00	32.43	6
ATOM	571	OE1	GLN	469	-26.710	26.700	-0.487	1.00	31.34	8
ATOM	572	NE2	GLN	469	-28.896	27.052	-0.874	1.00	27.89	7
ATOM	573	C	GLN	469	-27.901	25.483	4.266	1.00	27.60	6
ATOM	574	O	GLN	469	-27.289	24.514	4.734	1.00	25.37	8
ATOM	575	N	THR	470	-29.206	25.548	4.115	1.00	28.73	7
ATOM	576	CA	THR	470	-30.059	24.401	4.439	1.00	32.10	6
ATOM	577	CB	THR	470	-31.125	24.713	5.491	1.00	33.36	6
ATOM	578	OG1	THR	470	-30.619	25.555	6.553	1.00	45.26	8
ATOM	579	CG2	THR	470	-31.453	23.422	6.210	1.00	50.20	6
ATOM	580	C	THR	470	-30.737	23.976	3.138	1.00	32.77	6
ATOM	581	O	THR	470	-30.680	24.696	2.130	1.00	30.75	8
ATOM	582	N	GLY	471	-31.472	22.859	3.175	1.00	31.83	7
ATOM	583	CA	GLY	471	-32.224	22.397	2.033	1.00	27.97	6
ATOM	584	C	GLY	471	-33.376	23.322	1.690	1.00	29.94	6
ATOM	585	O	GLY	471	-33.938	23.198	0.596	1.00	32.37	8
ATOM	586	N	GLN	472	-33.842	24.159	2.594	1.00	24.86	7
ATOM	587	CA	GLN	472	-34.920	25.087	2.457	1.00	27.14	6
ATOM	588	CB	GLN	472	-35.868	24.892	3.667	1.00	27.31	6
ATOM	589	CG	GLN	472	-36.291	23.415	3.825	1.00	30.51	6
ATOM	590	CD	GLN	472	-36.961	22.871	2.567	1.00	30.53	6
ATOM	591	OE1	GLN	472	-37.981	23.425	2.161	1.00	39.95	8

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ATOM    592  NE2 GLN   472     -36.402  21.852   1.944  1.00 31.16   7
ATOM    593  C   GLN   472     -34.530  26.561   2.441  1.00 29.60   6
ATOM    594  O   GLN   472     -35.419  27.424   2.578  1.00 30.82   8
ATOM    595  N   THR   473     -33.248  26.912   2.380  1.00 25.83   7
ATOM    596  CA  THR   473     -32.861  28.317   2.426  1.00 26.62   6
ATOM    597  CB  THR   473     -32.278  28.731   3.792  1.00 26.64   6
ATOM    598  OG1 THR   473     -31.226  27.815   4.138  1.00 27.54   8
ATOM    599  CG2 THR   473     -33.313  28.742   4.897  1.00 28.16   6
ATOM    600  C   THR   473     -31.824  28.643   1.371  1.00 26.31   6
ATOM    601  O   THR   473     -31.210  27.756   0.776  1.00 28.00   8
ATOM    602  N   SER   474     -31.685  29.939   1.074  1.00 28.62   7
ATOM    603  CA  SER   474     -30.592  30.261   0.112  1.00 29.44   6
ATOM    604  CB  SER   474     -31.020  31.396  -0.803  1.00 30.45   6
ATOM    605  OG  SER   474     -31.407  32.467   0.034  1.00 41.05   8
ATOM    606  C   SER   474     -29.366  30.471   0.992  1.00 26.65   6
ATOM    607  O   SER   474     -29.461  30.428   2.228  1.00 25.57   8
ATOM    608  N   LEU   475     -28.178  30.585   0.442  1.00 29.47   7
ATOM    609  CA  LEU   475     -26.915  30.703   1.158  1.00 25.10   6
ATOM    610  CB  LEU   475     -25.749  30.725   0.159  1.00 27.83   6
ATOM    611  CG  LEU   475     -24.348  30.730   0.777  1.00 27.24   6
ATOM    612  CD1 LEU   475     -23.888  29.312   1.094  1.00 24.13   6
ATOM    613  CD2 LEU   475     -23.349  31.446  -0.133  1.00 24.42   6
ATOM    614  C   LEU   475     -26.884  31.893   2.087  1.00 25.84   6
ATOM    615  O   LEU   475     -27.300  33.008   1.711  1.00 22.45   8
ATOM    616  N   SER   476     -26.376  31.708   3.315  1.00 23.31   7
ATOM    617  CA  SER   476     -26.357  32.857   4.219  1.00 25.20   6
ATOM    618  CB  SER   476     -25.916  32.464   5.644  1.00 26.64   6
ATOM    619  OG  SER   476     -24.514  32.203   5.624  1.00 29.43   8
ATOM    620  C   SER   476     -25.346  33.911   3.738  1.00 23.00   6
ATOM    621  O   SER   476     -24.431  33.562   3.006  1.00 21.02   8
ATOM    622  N   ASP   477     -25.506  35.127   4.241  1.00 22.24   7
ATOM    623  CA  ASP   477     -24.493  36.154   4.094  1.00 26.03   6
ATOM    624  CB  ASP   477     -24.907  37.504   4.683  1.00 20.27   6
ATOM    625  CG  ASP   477     -25.914  38.190   3.758  1.00 25.73   6
ATOM    626  OD1 ASP   477     -25.821  37.973   2.541  1.00 23.79   8
ATOM    627  OD2 ASP   477     -26.769  38.912   4.292  1.00 28.92   8
ATOM    628  C   ASP   477     -23.267  35.675   4.929  1.00 25.85   6
ATOM    629  O   ASP   477     -23.423  34.962   5.914  1.00 24.00   8
ATOM    630  N   PRO   478     -22.098  36.108   4.492  1.00 27.37   7
ATOM    631  CD  PRO   478     -21.917  36.949   3.275  1.00 26.84   6
ATOM    632  CA  PRO   478     -20.849  35.736   5.098  1.00 25.42   6
ATOM    633  CB  PRO   478     -19.795  36.274   4.141  1.00 28.38   6
ATOM    634  CG  PRO   478     -20.453  37.280   3.272  1.00 27.24   6
ATOM    635  C   PRO   478     -20.575  36.310   6.479  1.00 25.28   6
ATOM    636  O   PRO   478     -21.006  37.407   6.820  1.00 23.68   8
ATOM    637  N   VAL   479     -19.833  35.535   7.265  1.00 20.24   7
ATOM    638  CA  VAL   479     -19.287  36.005   8.535  1.00 18.86   6
ATOM    639  CB  VAL   479     -19.850  35.350   9.783  1.00 19.49   6
ATOM    640  CG1 VAL   479     -19.042  35.627  11.046  1.00 22.25   6
ATOM    641  CG2 VAL   479     -21.275  35.907  10.036  1.00 21.95   6
ATOM    642  C   VAL   479     -17.777  35.820   8.399  1.00 19.76   6
ATOM    643  O   VAL   479     -17.283  34.736   8.076  1.00 22.34   8
ATOM    644  N   HIS   480     -17.024  36.911   8.566  1.00 19.43   7
ATOM    645  CA  HIS   480     -15.584  36.890   8.387  1.00 18.11   6
ATOM    646  CB  HIS   480     -15.130  38.245   7.784  1.00 26.87   6
ATOM    647  CG  HIS   480     -13.712  38.112   7.293  1.00 31.93   6
ATOM    648  CD2 HIS   480     -13.194  37.883   6.069  1.00 27.05   6
ATOM    649  ND1 HIS   480     -12.637  38.169   8.176  1.00 34.35   7
ATOM    650  CE1 HIS   480     -11.525  38.019   7.480  1.00 34.80   6
ATOM    651  NE2 HIS   480     -11.831  37.850   6.210  1.00 34.81   7
ATOM    652  C   HIS   480     -14.865  36.679   9.718  1.00 23.08   6
ATOM    653  O   HIS   480     -15.096  37.370  10.709  1.00 23.37   8
ATOM    654  N   LEU   481     -13.953  35.728   9.747  1.00 19.18   7
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ATOM    655  CA  LEU   481     -13.244  35.388  10.957  1.00 21.58   6
ATOM    656  CB  LEU   481     -13.567  33.929  11.331  1.00 18.20   6
ATOM    657  CG  LEU   481     -12.847  33.485  12.605  1.00 18.21   6
ATOM    658  CD1 LEU   481     -13.496  34.158  13.812  1.00 19.39   6
ATOM    659  CD2 LEU   481     -12.865  31.954  12.696  1.00 14.76   6
ATOM    660  C   LEU   481     -11.747  35.611  10.783  1.00 19.36   6
ATOM    661  O   LEU   481     -11.225  35.323   9.720  1.00 20.96   8
ATOM    662  N   THR   482     -11.100  36.177  11.793  1.00 19.61   7
ATOM    663  CA  THR   482      -9.642  36.403  11.680  1.00 18.45   6
ATOM    664  CB  THR   482      -9.316  37.916  11.683  1.00 25.98   6
ATOM    665  OG1 THR   482      -9.907  38.515  10.527  1.00 18.89   8
ATOM    666  CG2 THR   482      -7.795  38.091  11.666  1.00 24.98   6
ATOM    667  C   THR   482      -8.971  35.766  12.891  1.00 16.02   6
ATOM    668  O   THR   482      -9.248  36.131  14.035  1.00 14.79   8
ATOM    669  N   VAL   483      -8.075  34.821  12.647  1.00 16.23   7
ATOM    670  CA  VAL   483      -7.451  34.108  13.753  1.00 16.97   6
ATOM    671  CB  VAL   483      -7.559  32.584  13.530  1.00 12.81   6
ATOM    672  CG1 VAL   483      -7.051  31.894  14.799  1.00 15.92   6
ATOM    673  CG2 VAL   483      -8.986  32.106  13.246  1.00 11.78   6
ATOM    674  C   VAL   483      -6.020  34.602  13.892  1.00 19.97   6
ATOM    675  O   VAL   483      -5.261  34.537  12.918  1.00 18.57   8
ATOM    676  N   LEU   484      -5.686  35.110  15.075  1.00 16.89   7
ATOM    677  CA  LEU   484      -4.372  35.678  15.312  1.00 19.89   6
ATOM    678  CB  LEU   484      -4.621  37.080  15.890  1.00 18.15   6
ATOM    679  CG  LEU   484      -5.491  38.003  15.021  1.00 23.40   6
ATOM    680  CD1 LEU   484      -5.927  39.176  15.868  1.00 25.20   6
ATOM    681  CD2 LEU   484      -4.752  38.470  13.758  1.00 20.46   6
ATOM    682  C   LEU   484      -3.487  34.850  16.228  1.00 22.29   6
ATOM    683  O   LEU   484      -3.928  33.975  16.975  1.00 23.90   8
ATOM    684  N   PHE   485      -2.189  35.116  16.218  1.00 21.03   7
ATOM    685  CA  PHE   485      -1.254  34.422  17.111  1.00 22.92   6
ATOM    686  CB  PHE   485      -0.399  33.435  16.333  1.00 21.76   6
ATOM    687  CG  PHE   485       0.440  32.516  17.184  1.00 27.90   6
ATOM    688  CD1 PHE   485      -0.103  31.853  18.266  1.00 28.30   6
ATOM    689  CD2 PHE   485       1.787  32.333  16.899  1.00 26.61   6
ATOM    690  CE1 PHE   485       0.664  30.992  19.040  1.00 29.65   6
ATOM    691  CE2 PHE   485       2.559  31.480  17.668  1.00 25.61   6
ATOM    692  CZ  PHE   485       1.996  30.819  18.733  1.00 28.75   6
ATOM    693  C   PHE   485      -0.455  35.467  17.852  1.00 21.99   6
ATOM    694  O   PHE   485       0.642  35.866  17.426  1.00 22.11   8
ATOM    695  N   GLU   486      -1.023  35.983  18.938  1.00 20.76   7
ATOM    696  CA  GLU   486      -0.421  37.104  19.702  1.00 18.04   6
ATOM    697  CB  GLU   486      -1.142  38.403  19.210  1.00 20.84   6
ATOM    698  CG  GLU   486      -0.711  39.051  17.911  1.00 25.05   6
ATOM    699  CD  GLU   486      -1.647  39.818  17.019  1.00 41.96   6
ATOM    700  OE1 GLU   486      -2.719  40.359  17.416  1.00 46.14   8
ATOM    701  OE2 GLU   486      -1.429  39.973  15.765  1.00 40.77   8
ATOM    702  C   GLU   486      -0.694  36.840  21.176  1.00 18.46   6
ATOM    703  O   GLU   486      -1.588  36.027  21.462  1.00 16.67   8
ATOM    704  N   TRP   487      -0.031  37.458  22.156  1.00 12.60   7
ATOM    705  CA  TRP   487      -0.328  37.235  23.553  1.00 13.01   6
ATOM    706  CB  TRP   487       0.808  37.810  24.411  1.00 18.40   6
ATOM    707  CG  TRP   487       1.922  36.843  24.687  1.00 21.87   6
ATOM    708  CD2 TRP   487       1.812  35.690  25.521  1.00 21.14   6
ATOM    709  CE2 TRP   487       3.065  35.061  25.526  1.00 24.31   6
ATOM    710  CE3 TRP   487       0.767  35.128  26.255  1.00 24.84   6
ATOM    711  CD1 TRP   487       3.216  36.881  24.231  1.00 22.52   6
ATOM    712  NE1 TRP   487       3.907  35.797  24.734  1.00 22.53   7
ATOM    713  CZ2 TRP   487       3.303  33.900  26.266  1.00 29.91   6
ATOM    714  CZ3 TRP   487       0.998  33.976  26.987  1.00 29.83   6
ATOM    715  CH2 TRP   487       2.254  33.367  26.970  1.00 29.09   6
ATOM    716  C   TRP   487      -1.599  37.899  24.068  1.00 15.44   6
ATOM    717  O   TRP   487      -2.178  37.367  25.018  1.00 16.68   8
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ATOM    718  N   LEU   488      -2.036  38.993  23.447  1.00 14.44   7
ATOM    719  CA  LEU   488      -3.153  39.815  23.861  1.00 20.07   6
ATOM    720  CB  LEU   488      -2.596  40.924  24.783  1.00 17.49   6
ATOM    721  CG  LEU   488      -3.608  41.563  25.769  1.00 16.97   6
ATOM    722  CD1 LEU   488      -4.062  40.567  26.830  1.00 17.38   6
ATOM    723  CD2 LEU   488      -2.987  42.813  26.370  1.00 13.93   6
ATOM    724  C   LEU   488      -3.889  40.467  22.677  1.00 20.44   6
ATOM    725  O   LEU   488      -3.255  41.009  21.752  1.00 19.65   8
ATOM    726  N   VAL   489      -5.218  40.349  22.620  1.00 18.11   7
ATOM    727  CA  VAL   489      -5.998  40.940  21.542  1.00 14.66   6
ATOM    728  CBA VAL   489      -6.686  39.837  20.699  0.50  7.52   6
ATOM    729  CBB VAL   489      -6.677  39.925  20.604  0.50 13.86   6
ATOM    730  CG1 VAL   489      -7.573  38.976  21.597  0.50  7.13   6
ATOM    731  CG1 VAL   489      -5.696  39.457  19.543  0.50 15.87   6
ATOM    732  CG2 VAL   489      -7.501  40.380  19.531  0.50  3.91   6
ATOM    733  CG2 VAL   489      -7.264  38.776  21.402  0.50 18.65   6
ATOM    734  C   VAL   489      -7.109  41.834  22.107  1.00 15.71   6
ATOM    735  O   VAL   489      -7.689  41.604  23.179  1.00 14.52   8
ATOM    736  N   LEU   490      -7.379  42.908  21.386  1.00 15.13   7
ATOM    737  CA  LEU   490      -8.520  43.733  21.703  1.00 13.72   6
ATOM    738  CB  LEU   490      -8.287  45.241  21.488  1.00 17.87   6
ATOM    739  CG  LEU   490      -9.650  45.888  21.873  1.00 26.07   6
ATOM    740  CD1 LEU   490      -9.479  46.800  23.036  1.00 30.57   6
ATOM    741  CD2 LEU   490     -10.373  46.403  20.662  1.00 25.07   6
ATOM    742  C   LEU   490      -9.657  43.192  20.803  1.00 17.58   6
ATOM    743  O   LEU   490      -9.611  43.349  19.576  1.00 14.46   8
ATOM    744  N   GLN   491     -10.673  42.568  21.412  1.00 15.83   7
ATOM    745  CA  GLN   491     -11.745  41.958  20.623  1.00 17.70   6
ATOM    746  CB  GLN   491     -12.252  40.628  21.264  1.00 15.03   6
ATOM    747  CG  GLN   491     -11.105  39.635  21.472  1.00 12.81   6
ATOM    748  CD  GLN   491     -11.564  38.230  21.868  1.00 15.79   6
ATOM    749  OE1 GLN   491     -12.023  38.043  22.988  1.00 14.61   8
ATOM    750  NE2 GLN   491     -11.409  37.256  20.984  1.00 16.27   7
ATOM    751  C   GLN   491     -12.971  42.824  20.375  1.00 17.71   6
ATOM    752  O   GLN   491     -13.370  43.570  21.268  1.00 19.37   8
ATOM    753  N   THR   492     -13.607  42.659  19.218  1.00 14.05   7
ATOM    754  CA  THR   492     -14.853  43.378  18.934  1.00 19.01   6
ATOM    755  CB  THR   492     -14.562  44.641  18.089  1.00 16.40   6
ATOM    756  OG1 THR   492     -15.769  45.381  17.905  1.00 18.39   8
ATOM    757  CG2 THR   492     -13.943  44.367  16.720  1.00 10.45   6
ATOM    758  C   THR   492     -15.803  42.450  18.173  1.00 18.96   6
ATOM    759  O   THR   492     -15.339  41.594  17.409  1.00 21.88   8
ATOM    760  N   PRO   493     -17.095  42.713  18.251  1.00 18.78   7
ATOM    761  CD  PRO   493     -17.747  43.697  19.135  1.00 22.16   6
ATOM    762  CA  PRO   493     -18.090  41.937  17.530  1.00 24.37   6
ATOM    763  CB  PRO   493     -19.352  42.063  18.371  1.00 24.99   6
ATOM    764  CG  PRO   493     -19.162  43.257  19.235  1.00 26.05   6
ATOM    765  C   PRO   493     -18.285  42.504  16.138  1.00 27.02   6
ATOM    766  O   PRO   493     -18.852  41.847  15.248  1.00 27.04   8
ATOM    767  N   HIS   494     -17.978  43.797  15.960  1.00 24.22   7
ATOM    768  CA  HIS   494     -18.114  44.445  14.651  1.00 25.72   6
ATOM    769  CB  HIS   494     -19.444  45.176  14.439  1.00 20.09   6
ATOM    770  CG  HIS   494     -20.639  44.279  14.595  1.00 21.67   6
ATOM    771  CD2 HIS   494     -21.161  43.336  13.798  1.00 23.30   6
ATOM    772  ND1 HIS   494     -21.380  44.271  15.754  1.00 27.49   7
ATOM    773  CE1 HIS   494     -22.338  43.365  15.657  1.00 26.54   6
ATOM    774  NE2 HIS   494     -22.211  42.788  14.482  1.00 32.10   7
ATOM    775  C   HIS   494     -17.038  45.516  14.453  1.00 24.49   6
ATOM    776  O   HIS   494     -16.481  46.028  15.429  1.00 24.01   8
ATOM    777  N   LEU   495     -16.847  45.937  13.214  1.00 21.96   7
ATOM    778  CA  LEU   495     -15.900  47.019  12.960  1.00 26.06   6
ATOM    779  CB  LEU   495     -15.014  46.748  11.741  1.00 26.66   6
ATOM    780  CG  LEU   495     -13.994  45.618  11.899  1.00 35.19   6
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ATOM    781  CD1 LEU   495     -13.449  45.265  10.525  1.00 25.66   6
ATOM    782  CD2 LEU   495     -12.895  45.958  12.900  1.00 24.13   6
ATOM    783  C   LEU   495     -16.626  48.341  12.720  1.00 26.30   6
ATOM    784  O   LEU   495     -15.999  49.402  12.790  1.00 26.83   8
ATOM    785  N   GLU   496     -17.884  48.265  12.326  1.00 25.44   7
ATOM    786  CA  GLU   496     -18.688  49.453  12.087  1.00 28.55   6
ATOM    787  CB  GLU   496     -19.062  49.722  10.634  1.00 28.97   6
ATOM    788  CG  GLU   496     -17.977  49.532   9.605  1.00 34.46   6
ATOM    789  CD  GLU   496     -18.414  49.757   8.168  1.00 42.07   6
ATOM    790  OE1 GLU   496     -19.560  50.157   7.882  1.00 41.53   8
ATOM    791  OE2 GLU   496     -17.592  49.523   7.256  1.00 45.31   8
ATOM    792  C   GLU   496     -19.995  49.291  12.885  1.00 32.22   6
ATOM    793  O   GLU   496     -20.525  48.180  13.015  1.00 31.68   8
ATOM    794  N   PHE   497     -20.396  50.379  13.538  1.00 29.38   7
ATOM    795  CA  PHE   497     -21.622  50.419  14.315  1.00 31.45   6
ATOM    796  CB  PHE   497     -21.388  50.515  15.832  1.00 29.88   6
ATOM    797  CG  PHE   497     -20.640  49.369  16.464  1.00 28.91   6
ATOM    798  CD1 PHE   497     -19.256  49.286  16.386  1.00 19.88   6
ATOM    799  CD2 PHE   497     -21.311  48.363  17.131  1.00 27.06   6
ATOM    800  CE1 PHE   497     -18.557  48.242  16.971  1.00 23.29   6
ATOM    801  CE2 PHE   497     -20.622  47.321  17.719  1.00 23.27   6
ATOM    802  CZ  PHE   497     -19.244  47.240  17.636  1.00 25.87   6
ATOM    803  C   PHE   497     -22.455  51.633  13.861  1.00 31.11   6
ATOM    804  O   PHE   497     -22.007  52.532  13.164  1.00 32.31   8
ATOM    805  N   GLN   498     -23.726  51.653  14.219  1.00 34.14   7
ATOM    806  CA  GLN   498     -24.636  52.735  13.939  1.00 33.31   6
ATOM    807  CB  GLN   498     -26.042  52.237  13.635  1.00 38.15   6
ATOM    808  CG  GLN   498     -26.207  51.444  12.356  1.00 45.65   6
ATOM    809  CD  GLN   498     -25.763  52.154  11.097  1.00 49.99   6
ATOM    810  OE1 GLN   498     -26.455  53.038  10.589  1.00 52.58   8
ATOM    811  NE2 GLN   498     -24.603  51.778  10.563  1.00 53.06   7
ATOM    812  C   GLN   498     -24.662  53.648  15.172  1.00 31.48   6
ATOM    813  O   GLN   498     -24.459  53.202  16.300  1.00 27.98   8
ATOM    814  N   GLU   499     -24.990  54.911  14.920  1.00 30.75   7
ATOM    815  CA  GLU   499     -25.112  55.888  16.009  1.00 32.56   6
ATOM    816  CB  GLU   499     -25.598  57.213  15.420  1.00 36.89   6
ATOM    817  CG  GLU   499     -25.204  58.474  16.141  1.00 44.86   6
ATOM    818  CD  GLU   499     -24.771  59.578  15.184  1.00 48.45   6
ATOM    819  OE1 GLU   499     -23.802  60.293  15.521  1.00 53.90   8
ATOM    820  OE2 GLU   499     -25.400  59.718  14.118  1.00 50.56   8
ATOM    821  C   GLU   499     -26.130  55.315  16.980  1.00 31.14   6
ATOM    822  O   GLU   499     -27.136  54.818  16.475  1.00 31.94   8
ATOM    823  N   GLY   500     -25.919  55.295  18.275  1.00 32.19   7
ATOM    824  CA  GLY   500     -26.874  54.743  19.217  1.00 31.10   6
ATOM    825  C   GLY   500     -26.643  53.325  19.696  1.00 31.51   6
ATOM    826  O   GLY   500     -27.082  52.935  20.789  1.00 30.30   8
ATOM    827  N   GLU   501     -25.948  52.497  18.921  1.00 34.41   7
ATOM    828  CA  GLU   501     -25.675  51.120  19.297  1.00 34.07   6
ATOM    829  CB  GLU   501     -24.949  50.414  18.148  1.00 37.86   6
ATOM    830  CG  GLU   501     -25.777  50.190  16.889  1.00 48.38   6
ATOM    831  CD  GLU   501     -24.984  49.346  15.895  1.00 49.17   6
ATOM    832  OE1 GLU   501     -24.251  48.458  16.385  1.00 58.51   8
ATOM    833  OE2 GLU   501     -25.046  49.533  14.669  1.00 48.56   8
ATOM    834  C   GLU   501     -24.783  51.018  20.537  1.00 33.06   6
ATOM    835  O   GLU   501     -24.086  51.978  20.886  1.00 27.70   8
ATOM    836  N   THR   502     -24.747  49.809  21.107  1.00 31.92   7
ATOM    837  CA  THR   502     -23.870  49.563  22.248  1.00 32.85   6
ATOM    838  CB  THR   502     -24.508  48.705  23.341  1.00 35.75   6
ATOM    839  OG1 THR   502     -25.546  49.428  24.021  1.00 36.79   8
ATOM    840  CG2 THR   502     -23.532  48.289  24.441  1.00 35.82   6
ATOM    841  C   THR   502     -22.582  48.922  21.721  1.00 32.54   6
ATOM    842  O   THR   502     -22.650  47.934  20.991  1.00 30.03   8
ATOM    843  N   ILE   503     -21.431  49.537  22.014  1.00 28.53   7
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ATOM    844  CA  ILE  503     -20.162  48.927  21.590  1.00 25.40   6
ATOM    845  CB  ILE  503     -19.131  49.993  21.163  1.00 26.58   6
ATOM    846  CG2 ILE  503     -17.776  49.370  20.828  1.00 25.47   6
ATOM    847  CG1 ILE  503     -19.669  50.786  19.971  1.00 21.79   6
ATOM    848  CD1 ILE  503     -18.739  51.863  19.438  1.00 19.73   6
ATOM    849  C   ILE  503     -19.624  48.113  22.767  1.00 25.27   6
ATOM    850  O   ILE  503     -19.439  48.685  23.853  1.00 23.06   8
ATOM    851  N   MET  504     -19.443  46.807  22.591  1.00 24.90   7
ATOM    852  CA  MET  504     -18.893  45.953  23.639  1.00 21.55   6
ATOM    853  CB  MET  504     -19.797  44.769  23.963  1.00 33.48   6
ATOM    854  CG  MET  504     -20.810  45.040  25.101  1.00 29.68   6
ATOM    855  SD  MET  504     -21.940  43.610  25.242  1.00 46.02  16
ATOM    856  CE  MET  504     -22.667  43.650  23.589  1.00 31.10   6
ATOM    857  C   MET  504     -17.528  45.410  23.215  1.00 21.27   6
ATOM    858  O   MET  504     -17.374  44.875  22.106  1.00 22.96   8
ATOM    859  N   LEU  505     -16.503  45.624  24.027  1.00 20.55   7
ATOM    860  CA  LEU  505     -15.134  45.198  23.728  1.00 22.33   6
ATOM    861  CB  LEU  505     -14.192  46.416  23.550  1.00 14.66   6
ATOM    862  CG  LEU  505     -14.713  47.477  22.561  1.00 18.89   6
ATOM    863  CD1 LEU  505     -13.796  48.688  22.489  1.00 19.44   6
ATOM    864  CD2 LEU  505     -14.882  46.810  21.186  1.00 18.70   6
ATOM    865  C   LEU  505     -14.567  44.307  24.817  1.00 20.15   6
ATOM    866  O   LEU  505     -15.050  44.360  25.950  1.00 18.39   8
ATOM    867  N   ARG  506     -13.523  43.542  24.483  1.00 18.25   7
ATOM    868  CA  ARG  506     -12.912  42.692  25.516  1.00 17.87   6
ATOM    869  CB  ARG  506     -13.607  41.313  25.508  1.00 14.96   6
ATOM    870  CG  ARG  506     -12.834  40.269  26.290  1.00 16.79   6
ATOM    871  CD  ARG  506     -13.699  39.078  26.757  1.00 19.51   6
ATOM    872  NE  ARG  506     -13.334  37.939  26.025  1.00 23.46   7
ATOM    873  CZ  ARG  506     -12.990  36.692  26.065  1.00 24.43   6
ATOM    874  NH1 ARG  506     -12.923  35.974  27.176  1.00 25.93   7
ATOM    875  NH2 ARG  506     -12.697  36.071  24.936  1.00 18.72   7
ATOM    876  C   ARG  506     -11.422  42.545  25.304  1.00 18.56   6
ATOM    877  O   ARG  506     -10.998  42.387  24.142  1.00 20.43   8
ATOM    878  N   CYS  507     -10.642  42.620  26.378  1.00 15.23   7
ATOM    879  CA  CYS  507      -9.189  42.447  26.292  1.00 14.89   6
ATOM    880  C   CYS  507      -8.934  40.975  26.583  1.00 15.28   6
ATOM    881  O   CYS  507      -9.296  40.572  27.690  1.00 15.96   8
ATOM    882  CB  CYS  507      -8.438  43.301  27.322  1.00 14.55   6
ATOM    883  SG  CYS  507      -6.691  43.498  27.013  1.00 13.91  16
ATOM    884  N   HIS  508      -8.446  40.213  25.604  1.00 15.07   7
ATOM    885  CA  HIS  508      -8.334  38.763  25.811  1.00 11.91   6
ATOM    886  CB  HIS  508      -9.190  38.109  24.708  1.00 16.03   6
ATOM    887  CG  HIS  508      -9.119  36.626  24.572  1.00 16.94   6
ATOM    888  CD2 HIS  508      -9.068  35.843  23.462  1.00 17.64   6
ATOM    889  ND1 HIS  508      -9.103  35.758  25.657  1.00 17.41   7
ATOM    890  CE1 HIS  508      -9.034  34.516  25.215  1.00 17.37   6
ATOM    891  NE2 HIS  508      -9.021  34.533  23.895  1.00 20.00   7
ATOM    892  C   HIS  508      -6.925  38.219  25.733  1.00 11.83   6
ATOM    893  O   HIS  508      -6.224  38.505  24.762  1.00 12.54   8
ATOM    894  N   SER  509      -6.515  37.364  26.654  1.00 13.70   7
ATOM    895  CA  SER  509      -5.160  36.775  26.605  1.00 11.70   6
ATOM    896  CB  SER  509      -4.583  36.732  28.041  1.00 13.47   6
ATOM    897  OG  SER  509      -5.609  36.021  28.800  1.00 16.16   8
ATOM    898  C   SER  509      -5.190  35.407  25.970  1.00 14.21   6
ATOM    899  O   SER  509      -6.180  34.634  25.903  1.00 14.63   8
ATOM    900  N   TRP  510      -4.047  35.062  25.381  1.00 16.58   7
ATOM    901  CA  TRP  510      -3.860  33.764  24.708  1.00 16.04   6
ATOM    902  CB  TRP  510      -2.480  33.708  24.072  1.00 18.73   6
ATOM    903  CG  TRP  510      -2.187  32.441  23.306  1.00 21.24   6
ATOM    904  CD2 TRP  510      -1.135  31.527  23.589  1.00 20.70   6
ATOM    905  CE2 TRP  510      -1.193  30.505  22.616  1.00 25.92   6
ATOM    906  CE3 TRP  510      -0.112  31.494  24.549  1.00 24.16   6
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ATOM	907	CD1	TRP	510	-2.827	31.958	22.214	1.00	22.22	6
ATOM	908	NE1	TRP	510	-2.233	30.797	21.765	1.00	22.81	7
ATOM	909	CZ2	TRP	510	-0.276	29.462	22.568	1.00	24.18	6
ATOM	910	CZ3	TRP	510	0.781	30.432	24.509	1.00	30.15	6
ATOM	911	CH2	TRP	510	0.698	29.433	23.526	1.00	31.04	6
ATOM	912	C	TRP	510	-4.082	32.621	25.681	1.00	14.44	6
ATOM	913	O	TRP	510	-3.665	32.647	26.852	1.00	17.08	8
ATOM	914	N	LYS	511	-4.928	31.667	25.294	1.00	19.42	7
ATOM	915	CA	LYS	511	-5.347	30.541	26.115	1.00	19.40	6
ATOM	916	CB	LYS	511	-4.131	29.625	26.418	1.00	21.00	6
ATOM	917	CG	LYS	511	-3.583	28.962	25.155	1.00	24.94	6
ATOM	918	CD	LYS	511	-2.124	28.579	25.337	1.00	34.17	6
ATOM	919	CE	LYS	511	-1.952	27.147	25.781	1.00	37.49	6
ATOM	920	NZ	LYS	511	-2.783	26.198	24.987	1.00	52.66	7
ATOM	921	C	LYS	511	-5.940	30.945	27.450	1.00	20.33	6
ATOM	922	O	LYS	511	-5.905	30.172	28.419	1.00	16.80	8
ATOM	923	N	ASP	512	-6.444	32.171	27.602	1.00	18.28	7
ATOM	924	CA	ASP	512	-6.989	32.633	28.861	1.00	20.31	6
ATOM	925	CB	ASP	512	-8.242	31.778	29.191	1.00	24.52	6
ATOM	926	CG	ASP	512	-9.306	32.129	28.155	1.00	31.39	6
ATOM	927	OD1	ASP	512	-9.700	33.321	28.119	1.00	39.68	8
ATOM	928	OD2	ASP	512	-9.719	31.278	27.360	1.00	35.00	8
ATOM	929	C	ASP	512	-6.015	32.663	30.018	1.00	23.40	6
ATOM	930	O	ASP	512	-6.426	32.391	31.148	1.00	23.42	8
ATOM	931	N	LYS	513	-4.731	32.977	29.785	1.00	23.10	7
ATOM	932	CA	LYS	513	-3.792	33.145	30.891	1.00	22.35	6
ATOM	933	CB	LYS	513	-2.352	33.434	30.437	1.00	21.68	6
ATOM	934	CG	LYS	513	-1.758	32.255	29.659	1.00	27.09	6
ATOM	935	CD	LYS	513	-0.232	32.292	29.608	1.00	28.34	6
ATOM	936	CE	LYS	513	0.269	31.086	28.816	1.00	32.92	6
ATOM	937	NZ	LYS	513	0.196	29.791	29.554	1.00	33.55	7
ATOM	938	C	LYS	513	-4.352	34.269	31.748	1.00	19.86	6
ATOM	939	O	LYS	513	-4.890	35.263	31.264	1.00	21.45	8
ATOM	940	N	PRO	514	-4.288	34.105	33.066	1.00	20.08	7
ATOM	941	CD	PRO	514	-3.701	32.938	33.768	1.00	16.95	6
ATOM	942	CA	PRO	514	-4.923	35.065	33.957	1.00	17.00	6
ATOM	943	CB	PRO	514	-4.548	34.574	35.342	1.00	19.22	6
ATOM	944	CG	PRO	514	-4.169	33.133	35.176	1.00	21.34	6
ATOM	945	C	PRO	514	-4.451	36.461	33.636	1.00	16.83	6
ATOM	946	O	PRO	514	-3.237	36.741	33.512	1.00	16.01	8
ATOM	947	N	LEU	515	-5.414	37.383	33.560	1.00	15.95	7
ATOM	948	CA	LEU	515	-5.081	38.762	33.215	1.00	17.10	6
ATOM	949	CB	LEU	515	-5.769	38.987	31.856	1.00	16.83	6
ATOM	950	CG	LEU	515	-5.790	40.368	31.231	1.00	21.64	6
ATOM	951	CD1	LEU	515	-4.399	40.734	30.733	1.00	19.24	6
ATOM	952	CD2	LEU	515	-6.777	40.380	30.043	1.00	19.80	6
ATOM	953	C	LEU	515	-5.606	39.750	34.226	1.00	21.13	6
ATOM	954	O	LEU	515	-6.788	39.666	34.569	1.00	18.84	8
ATOM	955	N	VAL	516	-4.839	40.761	34.630	1.00	20.51	7
ATOM	956	CA	VAL	516	-5.314	41.793	35.545	1.00	20.40	6
ATOM	957	CB	VAL	516	-4.787	41.589	36.971	1.00	18.72	6
ATOM	958	CG1	VAL	516	-5.313	40.319	37.644	1.00	22.67	6
ATOM	959	CG2	VAL	516	-3.257	41.538	36.998	1.00	22.12	6
ATOM	960	C	VAL	516	-4.807	43.163	35.073	1.00	19.73	6
ATOM	961	O	VAL	516	-3.910	43.184	34.223	1.00	20.76	8
ATOM	962	N	LYS	517	-5.268	44.251	35.693	1.00	17.34	7
ATOM	963	CA	LYS	517	-4.760	45.576	35.381	1.00	20.33	6
ATOM	964	CB	LYS	517	-3.271	45.684	35.802	1.00	21.74	6
ATOM	965	CG	LYS	517	-3.115	45.939	37.301	1.00	24.43	6
ATOM	966	CD	LYS	517	-1.793	45.421	37.832	1.00	32.69	6
ATOM	967	CE	LYS	517	-0.798	46.552	38.056	1.00	40.27	6
ATOM	968	NZ	LYS	517	0.568	46.001	38.266	1.00	44.06	7
ATOM	969	C	LYS	517	-4.956	45.930	33.914	1.00	18.58	6

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ATOM    970  O   LYS  517      -4.026  46.331  33.234  1.00 24.35   8
ATOM    971  N   VAL  518      -6.181  45.803  33.417  1.00 20.45   7
ATOM    972  CA  VAL  518      -6.542  46.068  32.039  1.00 19.15   6
ATOM    973  CB  VAL  518      -7.756  45.223  31.607  1.00 12.17   6
ATOM    974  CG1 VAL  518      -8.199  45.470  30.176  1.00 18.94   6
ATOM    975  CG2 VAL  518      -7.408  43.737  31.794  1.00 16.75   6
ATOM    976  C   VAL  518      -6.868  47.536  31.797  1.00 18.58   6
ATOM    977  O   VAL  518      -7.606  48.149  32.564  1.00 17.16   8
ATOM    978  N   THR  519      -6.307  48.063  30.711  1.00 15.94   7
ATOM    979  CA  THR  519      -6.527  49.441  30.335  1.00 16.50   6
ATOM    980  CB  THR  519      -5.291  50.343  30.367  1.00 19.59   6
ATOM    981  OG1 THR  519      -4.770  50.456  31.693  1.00 23.11   8
ATOM    982  CG2 THR  519      -5.695  51.743  29.872  1.00 24.83   6
ATOM    983  C   THR  519      -7.053  49.442  28.881  1.00 17.81   6
ATOM    984  O   THR  519      -6.436  48.736  28.095  1.00 14.36   8
ATOM    985  N   PHE  520      -8.121  50.187  28.643  1.00 14.86   7
ATOM    986  CA  PHE  520      -8.616  50.258  27.259  1.00 13.85   6
ATOM    987  CB  PHE  520     -10.122  50.069  27.240  1.00 15.51   6
ATOM    988  CG  PHE  520     -10.553  48.636  27.463  1.00 13.38   6
ATOM    989  CD1 PHE  520     -10.748  48.165  28.750  1.00 20.15   6
ATOM    990  CD2 PHE  520     -10.792  47.815  26.381  1.00 20.08   6
ATOM    991  CE1 PHE  520     -11.186  46.864  28.953  1.00 17.14   6
ATOM    992  CE2 PHE  520     -11.230  46.499  26.578  1.00 22.12   6
ATOM    993  CZ  PHE  520     -11.423  46.048  27.867  1.00 17.10   6
ATOM    994  C   PHE  520      -8.279  51.650  26.721  1.00 17.13   6
ATOM    995  O   PHE  520      -8.640  52.645  27.407  1.00 14.78   8
ATOM    996  N   PHE  521      -7.626  51.700  25.575  1.00 16.20   7
ATOM    997  CA  PHE  521      -7.277  52.998  25.011  1.00 18.83   6
ATOM    998  CB  PHE  521      -5.799  53.045  24.616  1.00 13.50   6
ATOM    999  CG  PHE  521      -4.768  52.814  25.656  1.00 18.60   6
ATOM   1000  CD1 PHE  521      -4.368  51.527  26.017  1.00 17.37   6
ATOM   1001  CD2 PHE  521      -4.208  53.905  26.334  1.00 18.44   6
ATOM   1002  CE1 PHE  521      -3.409  51.342  27.006  1.00 19.78   6
ATOM   1003  CE2 PHE  521      -3.260  53.693  27.313  1.00 22.69   6
ATOM   1004  CZ  PHE  521      -2.843  52.421  27.660  1.00 15.74   6
ATOM   1005  C   PHE  521      -8.074  53.327  23.749  1.00 18.44   6
ATOM   1006  O   PHE  521      -8.351  52.412  22.987  1.00 15.63   8
ATOM   1007  N   GLN  522      -8.333  54.613  23.480  1.00 19.35   7
ATOM   1008  CA  GLN  522      -8.959  54.986  22.203  1.00 19.90   6
ATOM   1009  CB  GLN  522     -10.396  55.487  22.317  1.00 16.32   6
ATOM   1010  CG  GLN  522     -10.784  56.283  21.065  1.00 18.39   6
ATOM   1011  CD  GLN  522     -12.050  57.102  21.247  1.00 21.98   6
ATOM   1012  OE1 GLN  522     -12.423  57.405  22.374  1.00 19.18   8
ATOM   1013  NE2 GLN  522     -12.700  57.470  20.153  1.00 24.51   7
ATOM   1014  C   GLN  522      -8.067  56.092  21.609  1.00 15.34   6
ATOM   1015  O   GLN  522      -7.789  57.034  22.321  1.00 17.30   8
ATOM   1016  N   ASN  523      -7.474  55.935  20.439  1.00 18.98   7
ATOM   1017  CA  ASN  523      -6.542  56.891  19.859  1.00 22.95   6
ATOM   1018  CB  ASN  523      -7.241  58.158  19.332  1.00 19.57   6
ATOM   1019  CG  ASN  523      -8.228  57.736  18.244  1.00 26.31   6
ATOM   1020  OD1 ASN  523      -8.013  56.813  17.441  1.00 19.76   8
ATOM   1021  ND2 ASN  523      -9.375  58.403  18.213  1.00 28.57   7
ATOM   1022  C   ASN  523      -5.397  57.223  20.803  1.00 21.02   6
ATOM   1023  O   ASN  523      -4.911  58.341  20.918  1.00 19.19   8
ATOM   1024  N   GLY  524      -4.951  56.234  21.579  1.00 19.77   7
ATOM   1025  CA  GLY  524      -3.852  56.350  22.495  1.00 16.41   6
ATOM   1026  C   GLY  524      -4.159  56.981  23.844  1.00 14.85   6
ATOM   1027  O   GLY  524      -3.210  57.208  24.611  1.00 15.05   8
ATOM   1028  N   LYS  525      -5.405  57.256  24.133  1.00 13.81   7
ATOM   1029  CA  LYS  525      -5.830  57.869  25.379  1.00 21.18   6
ATOM   1030  CB  LYS  525      -6.700  59.128  25.247  1.00 14.85   6
ATOM   1031  CG  LYS  525      -6.934  59.834  26.559  1.00 16.28   6
ATOM   1032  CD  LYS  525      -7.406  61.279  26.281  1.00 22.51   6
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ATOM   1033  CE  LYS   525      -7.925  61.877  27.587  1.00 30.62   6
ATOM   1034  NZ  LYS   525      -8.822  63.048  27.330  1.00 36.72   7
ATOM   1035  C   LYS   525      -6.725  56.852  26.121  1.00 18.20   6
ATOM   1036  O   LYS   525      -7.648  56.341  25.509  1.00 19.98   8
ATOM   1037  N   SER   526      -6.385  56.650  27.393  1.00 17.62   7
ATOM   1038  CA  SER   526      -7.107  55.625  28.155  1.00 20.03   6
ATOM   1039  CB  SER   526      -6.355  55.407  29.485  1.00 23.22   6
ATOM   1040  OG  SER   526      -7.317  55.093  30.466  1.00 38.12   8
ATOM   1041  C   SER   526      -8.541  56.043  28.389  1.00 17.85   6
ATOM   1042  O   SER   526      -8.842  57.209  28.647  1.00 21.31   8
ATOM   1043  N   GLN   527      -9.490  55.148  28.254  1.00 17.16   7
ATOM   1044  CA  GLN   527     -10.898  55.351  28.408  1.00 17.45   6
ATOM   1045  CB  GLN   527     -11.723  54.793  27.225  1.00 20.82   6
ATOM   1046  CG  GLN   527     -11.352  55.447  25.897  1.00 18.56   6
ATOM   1047  CD  GLN   527     -11.497  56.954  25.927  1.00 24.44   6
ATOM   1048  OE1 GLN   527     -12.606  57.450  26.116  1.00 31.62   8
ATOM   1049  NE2 GLN   527     -10.436  57.736  25.773  1.00 19.15   7
ATOM   1050  C   GLN   527     -11.386  54.615  29.661  1.00 20.94   6
ATOM   1051  O   GLN   527     -12.439  54.937  30.179  1.00 18.25   8
ATOM   1052  N   LYS   528     -10.643  53.581  30.032  1.00 21.18   7
ATOM   1053  CA  LYS   528     -11.070  52.818  31.216  1.00 23.10   6
ATOM   1054  CB  LYS   528     -12.177  51.832  30.842  1.00 21.83   6
ATOM   1055  CG  LYS   528     -12.683  50.984  32.013  1.00 24.67   6
ATOM   1056  CD  LYS   528     -13.739  49.961  31.589  1.00 18.23   6
ATOM   1057  CE  LYS   528     -14.048  49.120  32.870  1.00 27.02   6
ATOM   1058  NZ  LYS   528     -15.081  48.072  32.574  1.00 24.24   7
ATOM   1059  C   LYS   528      -9.884  52.022  31.754  1.00 24.93   6
ATOM   1060  O   LYS   528      -9.193  51.385  30.960  1.00 20.79   8
ATOM   1061  N   PHE   529      -9.678  52.044  33.062  1.00 21.39   7
ATOM   1062  CA  PHE   529      -8.708  51.171  33.695  1.00 24.45   6
ATOM   1063  CB  PHE   529      -7.610  51.940  34.458  1.00 25.50   6
ATOM   1064  CG  PHE   529      -6.772  51.029  35.327  1.00 25.51   6
ATOM   1065  CD1 PHE   529      -5.799  50.236  34.762  1.00 19.40   6
ATOM   1066  CD2 PHE   529      -7.002  50.938  36.700  1.00 29.98   6
ATOM   1067  CE1 PHE   529      -5.026  49.375  35.535  1.00 25.00   6
ATOM   1068  CE2 PHE   529      -6.249  50.078  37.491  1.00 28.84   6
ATOM   1069  CZ  PHE   529      -5.262  49.292  36.902  1.00 32.29   6
ATOM   1070  C   PHE   529      -9.480  50.289  34.687  1.00 27.88   6
ATOM   1071  O   PHE   529     -10.388  50.817  35.359  1.00 30.99   8
ATOM   1072  N   SER   530      -9.134  49.020  34.853  1.00 26.67   7
ATOM   1073  CA  SER   530      -9.779  48.225  35.917  1.00 24.98   6
ATOM   1074  CB  SER   530     -11.025  47.522  35.422  1.00 21.29   6
ATOM   1075  OG  SER   530     -11.271  46.401  36.250  1.00 25.72   8
ATOM   1076  C   SER   530      -8.777  47.199  36.434  1.00 24.39   6
ATOM   1077  O   SER   530      -8.123  46.581  35.576  1.00 24.91   8
ATOM   1078  N   HIS   531      -8.668  46.977  37.730  1.00 22.12   7
ATOM   1079  CA  HIS   531      -7.710  45.965  38.204  1.00 23.65   6
ATOM   1080  CB  HIS   531      -7.604  45.948  39.737  1.00 28.35   6
ATOM   1081  CG  HIS   531      -6.859  47.160  40.197  1.00 23.57   6
ATOM   1082  CD2 HIS   531      -7.307  48.357  40.642  1.00 18.55   6
ATOM   1083  ND1 HIS   531      -5.478  47.200  40.170  1.00 26.69   7
ATOM   1084  CE1 HIS   531      -5.095  48.388  40.617  1.00 16.65   6
ATOM   1085  NE2 HIS   531      -6.173  49.102  40.890  1.00 23.94   7
ATOM   1086  C   HIS   531      -8.108  44.552  37.814  1.00 23.89   6
ATOM   1087  O   HIS   531      -7.261  43.661  37.712  1.00 26.21   8
ATOM   1088  N   LEU   532      -9.426  44.318  37.689  1.00 21.77   7
ATOM   1089  CA  LEU   532      -9.886  42.966  37.480  1.00 20.70   6
ATOM   1090  CB  LEU   532     -10.630  42.505  38.760  1.00 30.28   6
ATOM   1091  CG  LEU   532     -10.022  42.782  40.148  1.00 26.56   6
ATOM   1092  CD1 LEU   532     -11.073  42.550  41.229  1.00 29.07   6
ATOM   1093  CD2 LEU   532      -8.814  41.886  40.435  1.00 24.99   6
ATOM   1094  C   LEU   532     -10.762  42.722  36.279  1.00 22.94   6
ATOM   1095  O   LEU   532     -10.794  41.540  35.900  1.00 22.01   8
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ATOM   1096  N   ASP   533     -11.541  43.685  35.778  1.00 21.75   7
ATOM   1097  CA  ASP   533     -12.469  43.465  34.679  1.00 24.62   6
ATOM   1098  CB  ASP   533     -13.560  44.539  34.854  1.00 29.71   6
ATOM   1099  CG  ASP   533     -14.734  44.545  33.915  1.00 32.90   6
ATOM   1100  OD1 ASP   533     -14.837  43.612  33.083  1.00 32.91   8
ATOM   1101  OD2 ASP   533     -15.597  45.472  34.000  1.00 36.01   8
ATOM   1102  C   ASP   533     -11.843  43.636  33.296  1.00 25.88   6
ATOM   1103  O   ASP   533     -11.419  44.730  32.940  1.00 24.36   8
ATOM   1104  N   PRO   534     -11.857  42.605  32.460  1.00 24.65   7
ATOM   1105  CD  PRO   534     -12.347  41.246  32.778  1.00 22.97   6
ATOM   1106  CA  PRO   534     -11.293  42.681  31.112  1.00 24.00   6
ATOM   1107  CB  PRO   534     -10.889  41.204  30.870  1.00 24.02   6
ATOM   1108  CG  PRO   534     -11.987  40.433  31.544  1.00 23.04   6
ATOM   1109  C   PRO   534     -12.256  43.102  30.017  1.00 22.11   6
ATOM   1110  O   PRO   534     -11.970  42.936  28.824  1.00 19.00   8
ATOM   1111  N   THR   535     -13.420  43.654  30.350  1.00 21.43   7
ATOM   1112  CA  THR   535     -14.424  44.061  29.401  1.00 24.98   6
ATOM   1113  CB  THR   535     -15.748  43.282  29.593  1.00 27.24   6
ATOM   1114  OG1 THR   535     -16.331  43.801  30.796  1.00 24.99   8
ATOM   1115  CG2 THR   535     -15.461  41.797  29.706  1.00 26.07   6
ATOM   1116  C   THR   535     -14.747  45.554  29.451  1.00 23.58   6
ATOM   1117  O   THR   535     -14.445  46.237  30.423  1.00 26.14   8
ATOM   1118  N   PHE   536     -15.267  46.076  28.347  1.00 20.63   7
ATOM   1119  CA  PHE   536     -15.549  47.475  28.150  1.00 20.10   6
ATOM   1120  CB  PHE   536     -14.343  48.160  27.523  1.00 25.47   6
ATOM   1121  CG  PHE   536     -14.408  49.616  27.170  1.00 25.61   6
ATOM   1122  CD1 PHE   536     -14.528  50.596  28.121  1.00 27.00   6
ATOM   1123  CD2 PHE   536     -14.332  50.019  25.841  1.00 27.45   6
ATOM   1124  CE1 PHE   536     -14.571  51.937  27.787  1.00 32.62   6
ATOM   1125  CE2 PHE   536     -14.385  51.350  25.490  1.00 28.46   6
ATOM   1126  CZ  PHE   536     -14.493  52.317  26.463  1.00 30.41   6
ATOM   1127  C   PHE   536     -16.796  47.669  27.297  1.00 24.00   6
ATOM   1128  O   PHE   536     -16.952  47.065  26.230  1.00 24.50   8
ATOM   1129  N   SER   537     -17.665  48.572  27.730  1.00 21.97   7
ATOM   1130  CA  SER   537     -18.914  48.856  27.050  1.00 26.52   6
ATOM   1131  CB  SER   537     -20.120  48.448  27.908  1.00 30.03   6
ATOM   1132  OG  SER   537     -20.769  47.307  27.412  1.00 44.19   8
ATOM   1133  C   SER   537     -19.128  50.359  26.840  1.00 27.38   6
ATOM   1134  O   SER   537     -18.911  51.172  27.721  1.00 27.33   8
ATOM   1135  N   ILE   538     -19.654  50.702  25.686  1.00 25.86   7
ATOM   1136  CA  ILE   538     -20.004  52.060  25.343  1.00 29.46   6
ATOM   1137  CB  ILE   538     -19.189  52.690  24.193  1.00 33.38   6
ATOM   1138  CG2 ILE   538     -19.669  54.118  23.941  1.00 27.23   6
ATOM   1139  CG1 ILE   538     -17.679  52.669  24.472  1.00 30.55   6
ATOM   1140  CD1 ILE   538     -16.817  52.711  23.223  1.00 29.53   6
ATOM   1141  C   ILE   538     -21.477  51.991  24.926  1.00 29.88   6
ATOM   1142  O   ILE   538     -21.768  51.489  23.849  1.00 27.99   8
ATOM   1143  N   PRO   539     -22.345  52.390  25.837  1.00 31.71   7
ATOM   1144  CD  PRO   539     -22.018  52.928  27.184  1.00 32.73   6
ATOM   1145  CA  PRO   539     -23.776  52.468  25.598  1.00 33.85   6
ATOM   1146  CB  PRO   539     -24.380  52.653  26.983  1.00 36.13   6
ATOM   1147  CG  PRO   539     -23.248  52.482  27.950  1.00 34.99   6
ATOM   1148  C   PRO   539     -24.030  53.706  24.741  1.00 35.63   6
ATOM   1149  O   PRO   539     -23.324  54.706  24.888  1.00 38.22   8
ATOM   1150  N   GLN   540     -24.974  53.658  23.827  1.00 36.97   7
ATOM   1151  CA  GLN   540     -25.288  54.756  22.935  1.00 35.17   6
ATOM   1152  CB  GLN   540     -26.223  55.742  23.631  1.00 43.87   6
ATOM   1153  CG  GLN   540     -27.518  55.064  24.088  1.00 49.77   6
ATOM   1154  CD  GLN   540     -27.883  55.584  25.468  1.00 56.21   6
ATOM   1155  OE1 GLN   540     -28.145  56.782  25.593  1.00 57.44   8
ATOM   1156  NE2 GLN   540     -27.883  54.705  26.468  1.00 57.25   7
ATOM   1157  C   GLN   540     -24.060  55.448  22.362  1.00 34.61   6
ATOM   1158  O   GLN   540     -23.677  56.582  22.693  1.00 33.34   8
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ATOM   1159  N   ALA   541     -23.473  54.755  21.391  1.00 29.80   7
ATOM   1160  CA  ALA   541     -22.287  55.232  20.694  1.00 30.02   6
ATOM   1161  CB  ALA   541     -21.778  54.121  19.774  1.00 27.89   6
ATOM   1162  C   ALA   541     -22.561  56.466  19.832  1.00 29.52   6
ATOM   1163  O   ALA   541     -23.650  56.596  19.263  1.00 29.60   8
ATOM   1164  N   ASN   542     -21.528  57.284  19.665  1.00 30.60   7
ATOM   1165  CA  ASN   542     -21.642  58.431  18.738  1.00 31.55   6
ATOM   1166  CB  ASN   542     -21.985  59.727  19.453  1.00 30.39   6
ATOM   1167  CG  ASN   542     -21.012  60.117  20.534  1.00 31.63   6
ATOM   1168  OD1 ASN   542     -19.838  60.443  20.268  1.00 27.57   8
ATOM   1169  ND2 ASN   542     -21.479  60.127  21.781  1.00 33.23   7
ATOM   1170  C   ASN   542     -20.357  58.545  17.936  1.00 32.33   6
ATOM   1171  O   ASN   542     -19.453  57.698  18.122  1.00 29.09   8
ATOM   1172  N   HIS   543     -20.223  59.609  17.134  1.00 29.40   7
ATOM   1173  CA  HIS   543     -19.075  59.780  16.266  1.00 28.82   6
ATOM   1174  CB  HIS   543     -19.262  60.971  15.272  1.00 24.51   6
ATOM   1175  CG  HIS   543     -20.360  60.632  14.295  1.00 31.72   6
ATOM   1176  CD2 HIS   543     -20.704  59.446  13.740  1.00 33.88   6
ATOM   1177  ND1 HIS   543     -21.278  61.538  13.822  1.00 32.86   7
ATOM   1178  CE1 HIS   543     -22.117  60.939  13.008  1.00 31.84   6
ATOM   1179  NE2 HIS   543     -21.794  59.664  12.941  1.00 31.48   7
ATOM   1180  C   HIS   543     -17.747  60.009  16.976  1.00 26.62   6
ATOM   1181  O   HIS   543     -16.696  59.768  16.366  1.00 25.96   8
ATOM   1182  N   SER   544     -17.812  60.454  18.221  1.00 20.85   7
ATOM   1183  CA  SER   544     -16.557  60.738  18.941  1.00 24.82   6
ATOM   1184  CB  SER   544     -16.839  61.887  19.915  1.00 30.28   6
ATOM   1185  OG  SER   544     -17.739  61.477  20.930  1.00 39.11   8
ATOM   1186  C   SER   544     -15.976  59.443  19.474  1.00 24.89   6
ATOM   1187  O   SER   544     -14.775  59.348  19.755  1.00 25.22   8
ATOM   1188  N   HIS   545     -16.746  58.344  19.463  1.00 20.33   7
ATOM   1189  CA  HIS   545     -16.306  57.005  19.811  1.00 19.38   6
ATOM   1190  CB  HIS   545     -17.474  56.104  20.302  1.00 19.40   6
ATOM   1191  CG  HIS   545     -18.145  56.654  21.534  1.00 18.37   6
ATOM   1192  CD2 HIS   545     -17.620  56.980  22.744  1.00 18.22   6
ATOM   1193  ND1 HIS   545     -19.493  56.901  21.627  1.00 23.55   7
ATOM   1194  CE1 HIS   545     -19.768  57.374  22.829  1.00 26.33   6
ATOM   1195  NE2 HIS   545     -18.643  57.454  23.525  1.00 21.05   7
ATOM   1196  C   HIS   545     -15.589  56.313  18.657  1.00 22.05   6
ATOM   1197  O   HIS   545     -15.013  55.230  18.848  1.00 21.86   8
ATOM   1198  N   SER   546     -15.569  56.869  17.440  1.00 20.66   7
ATOM   1199  CA  SER   546     -14.833  56.217  16.363  1.00 19.96   6
ATOM   1200  CB  SER   546     -15.075  56.857  14.986  1.00 20.48   6
ATOM   1201  OG  SER   546     -16.442  56.712  14.613  1.00 25.61   8
ATOM   1202  C   SER   546     -13.339  56.270  16.656  1.00 20.51   6
ATOM   1203  O   SER   546     -12.915  57.252  17.287  1.00 22.06   8
ATOM   1204  N   GLY   547     -12.556  55.288  16.197  1.00 16.70   7
ATOM   1205  CA  GLY   547     -11.123  55.483  16.411  1.00 20.49   6
ATOM   1206  C   GLY   547     -10.385  54.152  16.555  1.00 22.63   6
ATOM   1207  O   GLY   547     -10.982  53.104  16.332  1.00 16.09   8
ATOM   1208  N   ASP   548      -9.111  54.306  16.951  1.00 20.62   7
ATOM   1209  CA  ASP   548      -8.324  53.089  17.121  1.00 21.57   6
ATOM   1210  CB  ASP   548      -6.882  53.287  16.674  1.00 28.99   6
ATOM   1211  CG  ASP   548      -6.819  53.722  15.219  1.00 41.07   6
ATOM   1212  OD1 ASP   548      -7.849  53.528  14.540  1.00 39.21   8
ATOM   1213  OD2 ASP   548      -5.763  54.246  14.808  1.00 39.40   8
ATOM   1214  C   ASP   548      -8.315  52.652  18.590  1.00 20.72   6
ATOM   1215  O   ASP   548      -7.817  53.397  19.447  1.00 20.27   8
ATOM   1216  N   TYR   549      -8.822  51.426  18.798  1.00 16.97   7
ATOM   1217  CA  TYR   549      -8.811  50.900  20.164  1.00 18.60   6
ATOM   1218  CB  TYR   549     -10.193  50.279  20.472  1.00 16.94   6
ATOM   1219  CG  TYR   549     -11.272  51.332  20.606  1.00 18.45   6
ATOM   1220  CD1 TYR   549     -11.901  51.938  19.528  1.00 19.27   6
ATOM   1221  CE1 TYR   549     -12.877  52.918  19.737  1.00 20.18   6
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ATOM   1222  CD2 TYR   549     -11.672  51.704  21.879  1.00 18.36   6
ATOM   1223  CE2 TYR   549     -12.636  52.650  22.116  1.00 15.60   6
ATOM   1224  CZ  TYR   549     -13.238  53.260  21.027  1.00 18.77   6
ATOM   1225  OH  TYR   549     -14.211  54.206  21.253  1.00 18.41   8
ATOM   1226  C   TYR   549      -7.767  49.805  20.355  1.00 15.78   6
ATOM   1227  O   TYR   549      -7.539  49.007  19.450  1.00 15.86   8
ATOM   1228  N   HIS   550      -7.196  49.740  21.559  1.00 15.01   7
ATOM   1229  CA  HIS   550      -6.247  48.695  21.925  1.00 12.99   6
ATOM   1230  CB  HIS   550      -4.849  48.886  21.372  1.00 11.96   6
ATOM   1231  CG  HIS   550      -3.942  49.834  22.117  1.00 17.71   6
ATOM   1232  CD2 HIS   550      -2.944  49.571  23.004  1.00 16.09   6
ATOM   1233  ND1 HIS   550      -3.988  51.206  21.971  1.00 11.60   7
ATOM   1234  CE1 HIS   550      -3.058  51.763  22.716  1.00 16.95   6
ATOM   1235  NE2 HIS   550      -2.407  50.809  23.370  1.00 19.22   7
ATOM   1236  C   HIS   550      -6.263  48.596  23.462  1.00 13.37   6
ATOM   1237  O   HIS   550      -6.922  49.418  24.129  1.00 12.78   8
ATOM   1238  N   CYS   551      -5.680  47.511  23.957  1.00 14.21   7
ATOM   1239  CA  CYS   551      -5.670  47.307  25.414  1.00 15.38   6
ATOM   1240  C   CYS   551      -4.301  46.884  25.880  1.00 16.27   6
ATOM   1241  O   CYS   551      -3.422  46.462  25.132  1.00 15.15   8
ATOM   1242  CB  CYS   551      -6.746  46.304  25.856  1.00 16.85   6
ATOM   1243  SG  CYS   551      -6.581  44.597  25.248  1.00 14.82  16
ATOM   1244  N   THR   552      -4.080  47.061  27.186  1.00 17.41   7
ATOM   1245  CA  THR   552      -2.875  46.643  27.862  1.00 17.27   6
ATOM   1246  CB  THR   552      -1.899  47.735  28.305  1.00 21.80   6
ATOM   1247  OG1 THR   552      -2.527  48.654  29.205  1.00 17.53   8
ATOM   1248  CG2 THR   552      -1.356  48.478  27.075  1.00 17.12   6
ATOM   1249  C   THR   552      -3.346  45.877  29.127  1.00 19.83   6
ATOM   1250  O   THR   552      -4.471  46.142  29.600  1.00 16.21   8
ATOM   1251  N   GLY   553      -2.496  44.953  29.534  1.00 17.84   7
ATOM   1252  CA  GLY   553      -2.815  44.160  30.731  1.00 20.33   6
ATOM   1253  C   GLY   553      -1.647  43.261  31.108  1.00 18.60   6
ATOM   1254  O   GLY   553      -0.779  42.951  30.293  1.00 19.87   8
ATOM   1255  N   ASN   554      -1.603  42.866  32.373  1.00 20.99   7
ATOM   1256  CA  ASN   554      -0.560  42.051  32.959  1.00 20.36   6
ATOM   1257  CB  ASN   554      -0.512  42.310  34.478  1.00 26.77   6
ATOM   1258  CG  ASN   554       0.800  42.938  34.897  1.00 40.91   6
ATOM   1259  OD1 ASN   554       1.700  42.286  35.441  1.00 46.67   8
ATOM   1260  ND2 ASN   554       0.927  44.227  34.633  1.00 40.24   7
ATOM   1261  C   ASN   554      -0.879  40.566  32.817  1.00 22.51   6
ATOM   1262  O   ASN   554      -1.973  40.181  33.272  1.00 22.15   8
ATOM   1263  N   ILE   555       0.018  39.799  32.202  1.00 19.40   7
ATOM   1264  CA  ILE   555      -0.198  38.352  32.139  1.00 22.27   6
ATOM   1265  CB  ILE   555      -0.210  37.750  30.731  1.00 26.29   6
ATOM   1266  CG2 ILE   555      -0.327  36.226  30.831  1.00 23.31   6
ATOM   1267  CG1 ILE   555      -1.367  38.322  29.899  1.00 28.16   6
ATOM   1268  CD1 ILE   555      -1.371  37.992  28.434  1.00 29.42   6
ATOM   1269  C   ILE   555       0.974  37.777  32.941  1.00 27.67   6
ATOM   1270  O   ILE   555       2.112  38.140  32.639  1.00 24.10   8
ATOM   1271  N   GLY   556       0.732  37.028  34.020  1.00 33.10   7
ATOM   1272  CA  GLY   556       1.942  36.581  34.780  1.00 37.62   6
ATOM   1273  C   GLY   556       2.447  37.813  35.527  1.00 38.80   6
ATOM   1274  O   GLY   556       1.659  38.354  36.299  1.00 43.91   8
ATOM   1275  N   TYR   557       3.655  38.293  35.307  1.00 41.47   7
ATOM   1276  CA  TYR   557       4.182  39.509  35.894  1.00 43.65   6
ATOM   1277  CB  TYR   557       5.381  39.224  36.832  1.00 51.51   6
ATOM   1278  CG  TYR   557       5.020  38.274  37.961  1.00 57.42   6
ATOM   1279  CD1 TYR   557       5.523  36.981  37.982  1.00 60.45   6
ATOM   1280  CE1 TYR   557       5.179  36.101  38.992  1.00 62.57   6
ATOM   1281  CD2 TYR   557       4.140  38.662  38.963  1.00 61.00   6
ATOM   1282  CE2 TYR   557       3.788  37.787  39.982  1.00 63.03   6
ATOM   1283  CZ  TYR   557       4.313  36.513  39.986  1.00 63.56   6
ATOM   1284  OH  TYR   557       3.979  35.629  40.984  1.00 66.68   8
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ATOM   1285  C   TYR   557       4.676  40.515  34.849  1.00 41.96   6
ATOM   1286  O   TYR   557       5.445  41.446  35.115  1.00 41.33   8
ATOM   1287  N   THR   558       4.298  40.319  33.594  1.00 36.77   7
ATOM   1288  CA  THR   558       4.722  41.173  32.496  1.00 30.71   6
ATOM   1289  CB  THR   558       5.260  40.269  31.364  1.00 30.82   6
ATOM   1290  OG1 THR   558       6.237  39.395  31.942  1.00 30.47   8
ATOM   1291  CG2 THR   558       5.851  41.047  30.207  1.00 29.21   6
ATOM   1292  C   THR   558       3.532  41.922  31.912  1.00 25.66   6
ATOM   1293  O   THR   558       2.521  41.257  31.642  1.00 24.50   8
ATOM   1294  N   LEU   559       3.689  43.202  31.609  1.00 21.00   7
ATOM   1295  CA  LEU   559       2.617  43.942  30.960  1.00 21.01   6
ATOM   1296  CB  LEU   559       2.737  45.431  31.284  1.00 26.53   6
ATOM   1297  CG  LEU   559       1.601  46.379  30.958  1.00 27.15   6
ATOM   1298  CD1 LEU   559       0.323  46.049  31.713  1.00 25.15   6
ATOM   1299  CD2 LEU   559       1.979  47.830  31.316  1.00 28.75   6
ATOM   1300  C   LEU   559       2.654  43.687  29.461  1.00 22.04   6
ATOM   1301  O   LEU   559       3.711  43.618  28.844  1.00 22.64   8
ATOM   1302  N   PHE   560       1.484  43.470  28.855  1.00 20.79   7
ATOM   1303  CA  PHE   560       1.430  43.290  27.409  1.00 19.10   6
ATOM   1304  CB  PHE   560       0.821  41.920  27.060  1.00 20.91   6
ATOM   1305  CG  PHE   560       1.848  40.832  27.216  1.00 19.50   6
ATOM   1306  CD1 PHE   560       1.971  40.190  28.442  1.00 24.86   6
ATOM   1307  CD2 PHE   560       2.645  40.457  26.156  1.00 21.03   6
ATOM   1308  CE1 PHE   560       2.903  39.157  28.588  1.00 29.44   6
ATOM   1309  CE2 PHE   560       3.582  39.445  26.296  1.00 19.89   6
ATOM   1310  CZ  PHE   560       3.704  38.792  27.529  1.00 25.34   6
ATOM   1311  C   PHE   560       0.521  44.353  26.794  1.00 17.36   6
ATOM   1312  O   PHE   560      -0.346  44.884  27.504  1.00 18.36   8
ATOM   1313  N   SER   561       0.753  44.626  25.521  1.00 17.60   7
ATOM   1314  CA  SER   561      -0.087  45.564  24.785  1.00 14.63   6
ATOM   1315  CB  SER   561       0.744  46.716  24.188  1.00 20.14   6
ATOM   1316  OG  SER   561      -0.115  47.812  23.901  1.00 21.55   8
ATOM   1317  C   SER   561      -0.662  44.829  23.561  1.00 18.96   6
ATOM   1318  O   SER   561       0.101  44.113  22.894  1.00 19.79   8
ATOM   1319  N   SER   562      -1.921  45.070  23.232  1.00 16.19   7
ATOM   1320  CA  SER   562      -2.518  44.462  22.049  1.00 16.74   6
ATOM   1321  CB  SER   562      -4.029  44.188  22.233  1.00 16.78   6
ATOM   1322  OG  SER   562      -4.801  45.336  21.900  1.00 21.00   8
ATOM   1323  C   SER   562      -2.322  45.381  20.845  1.00 18.24   6
ATOM   1324  O   SER   562      -1.949  46.561  20.987  1.00 16.85   8
ATOM   1325  N   LYS   563      -2.535  44.839  19.652  1.00 17.96   7
ATOM   1326  CA  LYS   563      -2.484  45.663  18.445  1.00 17.36   6
ATOM   1327  CB  LYS   563      -2.369  44.909  17.133  1.00 20.94   6
ATOM   1328  CG  LYS   563      -1.228  43.981  16.902  1.00 25.34   6
ATOM   1329  CD  LYS   563       0.128  44.595  16.685  1.00 29.02   6
ATOM   1330  CE  LYS   563       0.954  43.735  15.721  1.00 42.35   6
ATOM   1331  NZ  LYS   563       0.495  42.308  15.692  1.00 38.14   7
ATOM   1332  C   LYS   563      -3.821  46.400  18.391  1.00 17.27   6
ATOM   1333  O   LYS   563      -4.817  45.960  18.978  1.00 16.54   8
ATOM   1334  N   PRO   564      -3.840  47.518  17.696  1.00 18.39   7
ATOM   1335  CD  PRO   564      -2.702  48.123  16.952  1.00 20.79   6
ATOM   1336  CA  PRO   564      -5.060  48.294  17.546  1.00 19.84   6
ATOM   1337  CB  PRO   564      -4.545  49.689  17.142  1.00 17.33   6
ATOM   1338  CG  PRO   564      -3.254  49.450  16.475  1.00 21.76   6
ATOM   1339  C   PRO   564      -6.032  47.697  16.528  1.00 19.62   6
ATOM   1340  O   PRO   564      -5.723  46.924  15.619  1.00 19.46   8
ATOM   1341  N   VAL   565      -7.295  48.033  16.674  1.00 17.22   7
ATOM   1342  CA  VAL   565      -8.427  47.704  15.841  1.00 20.36   6
ATOM   1343  CB  VAL   565      -9.405  46.676  16.450  1.00 20.84   6
ATOM   1344  CG1 VAL   565     -10.418  46.223  15.404  1.00 20.46   6
ATOM   1345  CG2 VAL   565      -8.699  45.391  16.899  1.00 23.72   6
ATOM   1346  C   VAL   565      -9.173  49.033  15.590  1.00 22.05   6
ATOM   1347  O   VAL   565      -9.532  49.772  16.499  1.00 22.10   8
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ATOM   1348  N   THR   566      -9.444  49.317  14.320  1.00 24.93   7
ATOM   1349  CA  THR   566     -10.111  50.549  13.939  1.00 26.07   6
ATOM   1350  CB  THR   566      -9.631  51.082  12.579  1.00 31.66   6
ATOM   1351  OG1 THR   566      -9.737  50.055  11.569  1.00 38.39   8
ATOM   1352  CG2 THR   566      -8.180  51.513  12.694  1.00 23.71   6
ATOM   1353  C   THR   566     -11.611  50.269  13.909  1.00 25.06   6
ATOM   1354  O   THR   566     -11.985  49.330  13.244  1.00 21.88   8
ATOM   1355  N   ILE   567     -12.362  50.988  14.714  1.00 21.40   7
ATOM   1356  CA  ILE   567     -13.784  50.959  14.909  1.00 25.06   6
ATOM   1357  CB  ILE   567     -14.088  50.702  16.424  1.00 26.21   6
ATOM   1358  CG2 ILE   567     -15.588  50.707  16.673  1.00 26.68   6
ATOM   1359  CG1 ILE   567     -13.415  49.394  16.825  1.00 26.56   6
ATOM   1360  CD1 ILE   567     -13.946  48.548  17.939  1.00 30.83   6
ATOM   1361  C   ILE   567     -14.416  52.294  14.501  1.00 24.36   6
ATOM   1362  O   ILE   567     -14.013  53.384  14.920  1.00 23.36   8
ATOM   1363  N   THR   568     -15.412  52.275  13.630  1.00 22.83   7
ATOM   1364  CA  THR   568     -16.083  53.461  13.152  1.00 27.27   6
ATOM   1365  CB  THR   568     -15.945  53.600  11.622  1.00 31.88   6
ATOM   1366  OG1 THR   568     -14.565  53.495  11.277  1.00 32.11   8
ATOM   1367  CG2 THR   568     -16.462  54.972  11.179  1.00 34.54   6
ATOM   1368  C   THR   568     -17.575  53.452  13.501  1.00 28.53   6
ATOM   1369  O   THR   568     -18.190  52.383  13.508  1.00 32.64   8
ATOM   1370  N   VAL   569     -18.090  54.606  13.863  1.00 23.55   7
ATOM   1371  CA  VAL   569     -19.472  54.855  14.163  1.00 27.27   6
ATOM   1372  CB  VAL   569     -19.728  55.507  15.523  1.00 28.51   6
ATOM   1373  CG1 VAL   569     -21.227  55.733  15.757  1.00 26.42   6
ATOM   1374  CG2 VAL   569     -19.189  54.706  16.696  1.00 27.97   6
ATOM   1375  C   VAL   569     -20.011  55.844  13.098  1.00 32.65   6
ATOM   1376  O   VAL   569     -19.332  56.810  12.710  1.00 33.21   8
ATOM   1377  N   GLN   570     -21.245  55.670  12.689  0.01 33.85   7
ATOM   1378  CA  GLN   570     -21.966  56.476  11.737  0.01 35.75   6
ATOM   1379  CB  GLN   570     -23.335  56.839  12.362  0.01 36.48   6
ATOM   1380  CG  GLN   570     -24.465  56.854  11.347  0.01 37.54   6
ATOM   1381  CD  GLN   570     -25.478  55.756  11.599  0.01 37.91   6
ATOM   1382  OE1 GLN   570     -25.142  54.680  12.096  0.01 38.17   8
ATOM   1383  NE2 GLN   570     -26.735  56.020  11.257  0.01 38.21   7
ATOM   1384  C   GLN   570     -21.355  57.778  11.241  0.01 36.70   6
ATOM   1385  O   GLN   570     -21.049  58.699  11.995  0.01 36.81   8
ATOM   1386  N   VAL   571     -21.273  57.907   9.919  0.01 37.51   7
ATOM   1387  CA  VAL   571     -20.781  59.094   9.240  0.01 38.20   6
ATOM   1388  CB  VAL   571     -19.483  59.658   9.842  0.01 38.61   6
ATOM   1389  CG1 VAL   571     -18.334  58.667   9.681  0.01 38.88   6
ATOM   1390  CG2 VAL   571     -19.115  60.985   9.180  0.01 38.83   6
ATOM   1391  C   VAL   571     -20.587  58.818   7.750  0.01 38.42   6
ATOM   1392  O   VAL   571     -21.420  59.293   6.949  0.01 38.53   8
ATOM      1  OW0 WAT   601     -13.958  32.760  19.930  1.00 18.36   8
ATOM      2  OW0 WAT   602     -13.653  59.625  23.320  1.00 24.59   8
ATOM      3  OW0 WAT   603      -5.895  43.456  18.965  1.00 14.14   8
ATOM      4  OW0 WAT   604      -9.519  28.178  30.514  1.00 42.11   8
ATOM      5  OW0 WAT   605      -8.700  36.412  28.355  1.00 21.65   8
ATOM      6  OW0 WAT   606     -25.548  35.202   7.898  1.00 24.88   8
ATOM      7  OW0 WAT   607      -2.902  48.395  31.897  1.00 19.13   8
ATOM      8  OW0 WAT   608     -14.303  55.610  23.676  1.00 24.28   8
ATOM      9  OW0 WAT   609     -10.371  38.314  29.076  1.00 27.73   8
ATOM     10  OW0 WAT   610     -12.433  34.237  21.505  1.00 14.04   8
ATOM     11  OW0 WAT   611      -5.417  53.367  21.002  1.00 16.89   8
ATOM     12  OW0 WAT   612     -29.599  18.069  11.595  1.00 34.62   8
ATOM     13  OW0 WAT   613     -17.813  30.679   2.648  1.00 16.34   8
ATOM     14  OW0 WAT   614      -6.656  42.551  16.413  1.00 24.31   8
ATOM     15  OW0 WAT   615     -21.191  20.720   5.335  1.00 30.05   8
ATOM     16  OW0 WAT   616     -15.621  34.100  18.319  1.00 18.82   8
ATOM     17  OW0 WAT   617      -6.528  44.456  14.460  1.00 26.68   8
ATOM     18  OW0 WAT   618      -6.213  31.143  22.792  1.00 19.89   8
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ATOM     19  OW0 WAT   619     -12.935  32.992  24.109  1.00 29.95    8
ATOM     20  OW0 WAT   620       2.277  38.630  20.953  1.00 28.34    8
ATOM     21  OW0 WAT   621     -20.151  29.522   0.183  1.00 21.62    8
ATOM     22  OW0 WAT   622     -27.773  35.663   6.295  1.00 20.74    8
ATOM     23  OW0 WAT   623       0.481  42.002  19.811  1.00 24.67    8
ATOM     24  OW0 WAT   624     -17.815  32.952   1.120  1.00 26.99    8
ATOM     25  OW0 WAT   625     -16.604  36.105  25.523  1.00 18.45    8
ATOM     26  OW0 WAT   626       0.330  41.286  22.516  1.00 29.01    8
ATOM     27  OW0 WAT   627     -13.324  59.911  17.129  1.00 40.98    8
ATOM     28  OW0 WAT   628      -9.214  59.486  22.450  1.00 41.91    8
ATOM     29  OW0 WAT   629     -20.146  18.596  13.850  1.00 50.03    8
ATOM     30  OW0 WAT   630     -21.707  20.513  12.325  1.00 18.46    8
ATOM     31  OW0 WAT   631     -15.403  33.699  25.599  1.00 21.44    8
ATOM     32  OW0 WAT   632     -12.703  37.608  30.174  1.00 37.28    8
ATOM     33  OW0 WAT   633     -12.479  39.466  39.250  1.00 23.78    8
ATOM     34  OW0 WAT   634     -13.921  41.406   9.106  1.00 40.49    8
ATOM     35  OW0 WAT   635      -7.230  28.485  24.432  1.00 41.81    8
ATOM     36  OW0 WAT   636      -2.989  42.185  19.344  1.00 17.29    8
ATOM     37  OW0 WAT   637     -12.865  25.830  10.180  1.00 47.19    8
ATOM     38  OW0 WAT   638      -2.754  32.875  13.259  1.00 35.75    8
ATOM     39  OW0 WAT   639     -17.416  43.258  26.641  1.00 32.09    8
ATOM     40  OW0 WAT   640     -31.068  25.287  10.888  1.00 20.85    8
ATOM     41  OW0 WAT   641     -17.725  28.881  21.261  1.00 25.43    8
ATOM     42  OW0 WAT   642     -32.760  35.615   6.079  1.00 38.04    8
ATOM     43  OW0 WAT   643     -14.079  28.493  25.218  1.00 20.23    8
ATOM     44  OW0 WAT   644     -16.644  22.930  -2.315  1.00 34.00    8
ATOM     45  OW0 WAT   645      -1.790  38.223  35.518  1.00 30.63    8
ATOM     46  OW0 WAT   646     -10.026  24.026  13.639  1.00 31.10    8
ATOM     47  OW0 WAT   647     -11.096  60.328  24.599  1.00 33.25    8
ATOM     48  OW0 WAT   648     -19.457  27.850  -2.970  1.00 36.88    8
ATOM     49  OW0 WAT   649     -18.578  40.758  26.756  1.00 30.86    8
ATOM     50  OW0 WAT   650     -11.119  22.191  16.190  1.00 37.83    8
ATOM     51  OW0 WAT   651      -2.583  24.179  28.032  1.00 73.18    8
ATOM     52  OW0 WAT   652      -0.243  25.713  22.803  1.00 34.15    8
ATOM     53  OW0 WAT   653     -33.328  18.701  10.255  1.00 23.17    8
ATOM     54  OW0 WAT   654     -22.212  13.785   5.080  1.00 51.41    8
ATOM     55  OW0 WAT   655     -21.393  16.945  11.680  1.00 31.47    8
ATOM     56  OW0 WAT   656     -37.174  28.484   4.349  1.00 36.66    8
ATOM     57  OW0 WAT   657     -23.291  46.916  13.981  1.00 45.02    8
ATOM     58  OW0 WAT   658     -31.521  20.732   5.404  1.00 28.19    8
ATOM     59  OW0 WAT   659     -11.904  22.697   8.209  1.00 61.39    8
ATOM     60  OW0 WAT   660      -7.393  64.706  24.668  1.00 45.96    8
ATOM     61  OW0 WAT   661     -12.356  29.912  23.727  1.00 23.77    8
ATOM     62  OW0 WAT   662     -33.898  31.788   7.353  1.00 32.96    8
ATOM     63  OW0 WAT   663     -28.502  48.102  25.478  1.00 58.40    8
ATOM     64  OW0 WAT   664     -23.414  63.056  18.427  1.00 35.16    8
ATOM     65  OW0 WAT   665      -4.792  26.235  16.778  1.00 44.49    8
ATOM     66  OW0 WAT   666     -28.509  23.145  -1.620  1.00 50.51    8
ATOM     67  OW0 WAT   667     -19.685  32.378  -0.712  1.00 45.74    8
ATOM     68  OW0 WAT   668     -10.899  26.379  23.620  1.00 43.61    8
ATOM     69  OW0 WAT   669       1.033  27.146  20.128  1.00 34.52    8
ATOM     70  OW0 WAT   670     -15.215  33.469   0.077  1.00 27.35    8
ATOM     71  OW0 WAT   671      -8.748  20.877  16.508  1.00 51.59    8
ATOM     72  OW0 WAT   672     -22.332  18.552   3.707  1.00 30.25    8
ATOM     73  OW0 WAT   673     -23.373  30.095  17.610  1.00 22.44    8
ATOM     74  OW0 WAT   674     -11.965  32.994  26.359  1.00 26.92    8
ATOM     75  OW0 WAT   675     -35.793  29.720   7.198  1.00 27.19    8
ATOM     76  OW0 WAT   676     -10.333  28.336  25.867  1.00 46.78    8
ATOM     77  OW0 WAT   677     -17.230  31.681  24.852  1.00 26.22    8
ATOM     78  OW0 WAT   678     -17.594  49.434  30.830  1.00 32.58    8
ATOM     79  OW0 WAT   679      -8.561  33.163  32.884  1.00 37.04    8
ATOM     80  OW0 WAT   680     -16.374  29.101  -4.195  1.00 31.45    8
ATOM     81  OW0 WAT   681      -8.995  30.537  24.946  1.00 36.64    8
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ATOM     82  OW0 WAT   682     -19.019  53.815  28.676  1.00 48.06    8
ATOM     83  OW0 WAT   683     -20.039  39.516  15.742  1.00 23.23    8
ATOM     84  OW0 WAT   684     -21.308  45.557  20.658  1.00 28.24    8
ATOM     85  OW0 WAT   685      -7.405  30.847   5.261  1.00 41.47    8
ATOM     86  OW0 WAT   686     -23.729  34.800   0.632  1.00 30.27    8
ATOM     87  OW0 WAT   687     -15.826  60.771  23.946  1.00 41.94    8
ATOM     88  OW0 WAT   688       0.119  50.495  24.812  0.50 25.93    8
ATOM     89  OW0 WAT   689      -3.397  45.987  42.245  1.00 29.87    8
ATOM     90  OW0 WAT   690     -10.215  47.715  32.270  1.00 43.33    8
ATOM     91  OW0 WAT   691      -8.440  35.757  33.883  1.00 34.09    8
END
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TABLE 3

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REMARK Homology model of Fc epsilon Receptor I by V. C. Epa; based on structure of
FcgRIIa by K. Maxwell.
REMARK Produced by MODELLER: 24-Aug-98 01:02:51                                    1
REMARK MODELLER OBJECTIVE FUNCTION:        643.1817
ATOM      1  N   VAL     1      36.442  43.253  22.184  1.00  0.14      1SG    2
ATOM      2  CA  VAL     1      37.922  43.321  22.176  1.00  0.14      1SG    3
ATOM      3  CB  VAL     1      38.483  42.986  23.538  1.00  0.14      1SG    4
ATOM      4  CG1 VAL     1      38.026  44.080  24.516  1.00  0.14      1SG    5
ATOM      5  CG2 VAL     1      38.051  41.576  23.970  1.00  0.14      1SG    6
ATOM      6  C   VAL     1      38.614  42.508  21.119  1.00  0.14      1SG    7
ATOM      7  O   VAL     1      39.758  42.821  20.796  1.00  0.14      1SG    8
ATOM      8  N   PRO     2      38.026  41.492  20.533  1.00  0.15      1SG    9
ATOM      9  CA  PRO     2      38.761  40.840  19.488  1.00  0.15      1SG   10
ATOM     10  CD  PRO     2      37.208  40.531  21.266  1.00  0.15      1SG   11
ATOM     11  CB  PRO     2      38.099  39.483  19.270  1.00  0.15      1SG   12
ATOM     12  CG  PRO     2      37.502  39.155  20.647  1.00  0.15      1SG   13
ATOM     13  C   PRO     2      38.754  41.707  18.276  1.00  0.15      1SG   14
ATOM     14  O   PRO     2      37.885  42.569  18.163  1.00  0.15      1SG   15
ATOM     15  N   GLN     3      39.714  41.495  17.359  1.00  0.19      1SG   16
ATOM     16  CA  GLN     3      39.782  42.301  16.180  1.00  0.19      1SG   17
ATOM     17  CB  GLN     3      40.951  41.913  15.260  1.00  0.19      1SG   18
ATOM     18  CG  GLN     3      41.177  42.871  14.092  1.00  0.19      1SG   19
ATOM     19  CD  GLN     3      42.430  42.400  13.369  1.00  0.19      1SG   20
ATOM     20  OE1 GLN     3      42.839  41.249  13.508  1.00  0.19      1SG   21
ATOM     21  NE2 GLN     3      43.063  43.312  12.584  1.00  0.19      1SG   22
ATOM     22  C   GLN     3      38.497  42.103  15.448  1.00  0.19      1SG   23
ATOM     23  O   GLN     3      37.821  41.091  15.627  1.00  0.19      1SG   24
ATOM     24  N   LYS     4      38.112  43.088  14.614  1.00  0.23      1SG   25
ATOM     25  CA  LYS     4      36.855  42.998  13.932  1.00  0.23      1SG   26
ATOM     26  CB  LYS     4      36.146  44.354  13.776  1.00  0.23      1SG   27
ATOM     27  CG  LYS     4      35.714  44.972  15.107  1.00  0.23      1SG   28
ATOM     28  CD  LYS     4      35.315  46.446  14.996  1.00  0.23      1SG   29
ATOM     29  CE  LYS     4      36.506  47.386  14.804  1.00  0.23      1SG   30
ATOM     30  NZ  LYS     4      36.033  48.778  14.631  1.00  0.23      1SG   31
ATOM     31  C   LYS     4      37.089  42.464  12.560  1.00  0.23      1SG   32
ATOM     32  O   LYS     4      37.990  42.883  11.834  1.00  0.23      1SG   33
ATOM     33  N   PRO     5      36.261  41.520  12.218  1.00  0.25      1SG   34
ATOM     34  CA  PRO     5      36.316  40.878  10.938  1.00  0.25      1SG   35
ATOM     35  CD  PRO     5      34.937  41.436  12.804  1.00  0.25      1SG   36
ATOM     36  CB  PRO     5      35.140  39.910  10.930  1.00  0.25      1SG   37
ATOM     37  CG  PRO     5      34.094  40.656  11.780  1.00  0.25      1SG   38
ATOM     38  C   PRO     5      36.086  41.953   9.932  1.00  0.25      1SG   39
ATOM     39  O   PRO     5      35.464  42.958  10.275  1.00  0.25      1SG   40
ATOM     40  N   LYS     6      36.592  41.786   8.699  1.00  0.35      1SG   41
ATOM     41  CA  LYS     6      36.336  42.790   7.714  1.00  0.35      1SG   42
ATOM     42  CB  LYS     6      37.597  43.344   7.030  1.00  0.35      1SG   43
ATOM     43  CG  LYS     6      38.418  44.275   7.924  1.00  0.35      1SG   44
ATOM     44  CD  LYS     6      39.065  43.574   9.120  1.00  0.35      1SG   45
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ATOM   45  CE  LYS   6      39.884  44.516  10.004  1.00  0.35      1SG  46
ATOM   46  NZ  LYS   6      40.469  43.767  11.137  1.00  0.35      1SG  47
ATOM   47  C   LYS   6      35.491  42.168   6.659  1.00  0.35      1SG  48
ATOM   48  O   LYS   6      35.686  41.011   6.289  1.00  0.35      1SG  49
ATOM   49  N   VAL   7      34.498  42.928   6.165  1.00  0.35      1SG  50
ATOM   50  CA  VAL   7      33.668  42.408   5.124  1.00  0.35      1SG  51
ATOM   51  CB  VAL   7      32.207  42.721   5.299  1.00  0.35      1SG  52
ATOM   52  CG1 VAL   7      32.014  44.247   5.280  1.00  0.35      1SG  53
ATOM   53  CG2 VAL   7      31.423  41.985   4.200  1.00  0.35      1SG  54
ATOM   54  C   VAL   7      34.132  43.039   3.857  1.00  0.35      1SG  55
ATOM   55  O   VAL   7      34.313  44.254   3.783  1.00  0.35      1SG  56
ATOM   56  N   SER   8      34.363  42.211   2.825  1.00  0.17      1SG  57
ATOM   57  CA  SER   8      34.831  42.734   1.580  1.00  0.17      1SG  58
ATOM   58  CB  SER   8      36.059  41.994   1.024  1.00  0.17      1SG  59
ATOM   59  OG  SER   8      36.458  42.571  -0.210  1.00  0.17      1SG  60
ATOM   60  C   SER   8      33.733  42.575   0.586  1.00  0.17      1SG  61
ATOM   61  O   SER   8      33.030  41.566   0.575  1.00  0.17      1SG  62
ATOM   62  N   LEU   9      33.552  43.593  -0.272  1.00  0.11      1SG  63
ATOM   63  CA  LEU   9      32.519  43.525  -1.257  1.00  0.11      1SG  64
ATOM   64  CB  LEU   9      31.563  44.731  -1.198  1.00  0.11      1SG  65
ATOM   65  CG  LEU   9      30.442  44.709  -2.253  1.00  0.11      1SG  66
ATOM   66  CD2 LEU   9      29.725  46.068  -2.316  1.00  0.11      1SG  67
ATOM   67  CD1 LEU   9      29.474  43.536  -2.025  1.00  0.11      1SG  68
ATOM   68  C   LEU   9      33.175  43.554  -2.597  1.00  0.11      1SG  69
ATOM   69  O   LEU   9      33.992  44.428  -2.883  1.00  0.11      1SG  70
ATOM   70  N   ASN  10      32.851  42.565  -3.450  1.00  0.17      1SG  71
ATOM   71  CA  ASN  10      33.401  42.565  -4.771  1.00  0.17      1SG  72
ATOM   72  CB  ASN  10      34.406  41.428  -5.011  1.00  0.17      1SG  73
ATOM   73  CG  ASN  10      35.623  41.693  -4.139  1.00  0.17      1SG  74
ATOM   74  OD1 ASN  10      35.830  41.018  -3.132  1.00  0.17      1SG  75
ATOM   75  ND2 ASN  10      36.451  42.698  -4.532  1.00  0.17      1SG  76
ATOM   76  C   ASN  10      32.257  42.340  -5.702  1.00  0.17      1SG  77
ATOM   77  O   ASN  10      31.543  41.346  -5.585  1.00  0.17      1SG  78
ATOM   78  N   PRO  11      32.037  43.241  -6.615  1.00  0.35      1SG  79
ATOM   79  CA  PRO  11      32.836  44.431  -6.695  1.00  0.35      1SG  80
ATOM   80  CD  PRO  11      31.554  42.825  -7.923  1.00  0.35      1SG  81
ATOM   81  CB  PRO  11      32.565  45.023  -8.076  1.00  0.35      1SG  82
ATOM   82  CG  PRO  11      32.180  43.803  -8.930  1.00  0.35      1SG  83
ATOM   83  C   PRO  11      32.450  45.345  -5.579  1.00  0.35      1SG  84
ATOM   84  O   PRO  11      31.441  45.098  -4.920  1.00  0.35      1SG  85
ATOM   85  N   PRO  12      33.234  46.363  -5.359  1.00  0.52      1SG  86
ATOM   86  CA  PRO  12      32.980  47.289  -4.289  1.00  0.52      1SG  87
ATOM   87  CD  PRO  12      34.649  46.281  -5.684  1.00  0.52      1SG  88
ATOM   88  CB  PRO  12      34.259  48.107  -4.134  1.00  0.52      1SG  89
ATOM   89  CG  PRO  12      35.360  47.165  -4.647  1.00  0.52      1SG  90
ATOM   90  C   PRO  12      31.775  48.132  -4.544  1.00  0.52      1SG  91
ATOM   91  O   PRO  12      31.347  48.837  -3.632  1.00  0.52      1SG  92
ATOM   92  N   TRP  13      31.217  48.087  -5.767  1.00  0.35      1SG  93
ATOM   93  CA  TRP  13      30.116  48.944  -6.099  1.00  0.35      1SG  94
ATOM   94  CB  TRP  13      29.535  48.655  -7.492  1.00  0.35      1SG  95
ATOM   95  CG  TRP  13      30.569  48.725  -8.590  1.00  0.35      1SG  96
ATOM   96  CD2 TRP  13      31.368  49.880  -8.883  1.00  0.35      1SG  97
ATOM   97  CD1 TRP  13      30.982  47.743  -9.442  1.00  0.35      1SG  98
ATOM   98  NE1 TRP  13      31.981  48.216 -10.257  1.00  0.35      1SG  99
ATOM   99  CE2 TRP  13      32.232  49.530  -9.921  1.00  0.35      1SG 100
ATOM  100  CE3 TRP  13      31.389  51.127  -8.327  1.00  0.35      1SG 101
ATOM  101  CZ2 TRP  13      33.131  50.426 -10.422  1.00  0.35      1SG 102
ATOM  102  CZ3 TRP  13      32.292  52.032  -8.839  1.00  0.35      1SG 103
ATOM  103  CH2 TRP  13      33.145  51.687  -9.867  1.00  0.35      1SG 104
ATOM  104  C   TRP  13      29.028  48.729  -5.094  1.00  0.35      1SG 105
ATOM  105  O   TRP  13      28.536  47.615  -4.920  1.00  0.35      1SG 106
ATOM  106  N   ASN  14      28.646  49.808  -4.379  1.00  0.15      1SG 107
ATOM  107  CA  ASN  14      27.615  49.722  -3.385  1.00  0.15      1SG 108
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ATOM  108  CB  ASN  14     27.490  50.980  -2.504  1.00  0.15      1SG 109
ATOM  109  CG  ASN  14     26.978  52.146  -3.340  1.00  0.15      1SG 110
ATOM  110  OD1 ASN  14     27.409  52.366  -4.471  1.00  0.15      1SG 111
ATOM  111  ND2 ASN  14     26.008  52.913  -2.773  1.00  0.15      1SG 112
ATOM  112  C   ASN  14     26.300  49.521  -4.065  1.00  0.15      1SG 113
ATOM  113  O   ASN  14     25.463  48.747  -3.602  1.00  0.15      1SG 114
ATOM  114  N   ARG  15     26.087  50.221  -5.196  1.00  0.13      1SG 115
ATOM  115  CA  ARG  15     24.834  50.135  -5.884  1.00  0.13      1SG 116
ATOM  116  CB  ARG  15     24.365  51.472  -6.487  1.00  0.13      1SG 117
ATOM  117  CG  ARG  15     24.050  52.558  -5.458  1.00  0.13      1SG 118
ATOM  118  CD  ARG  15     23.590  53.872  -6.094  1.00  0.13      1SG 119
ATOM  119  NE  ARG  15     23.349  54.844  -4.990  1.00  0.13      1SG 120
ATOM  120  CZ  ARG  15     22.138  55.461  -4.864  1.00  0.13      1SG 121
ATOM  121  NH1 ARG  15     21.143  55.212  -5.764  1.00  0.13      1SG 122
ATOM  122  NH2 ARG  15     21.924  56.330  -3.833  1.00  0.13      1SG 123
ATOM  123  C   ARG  15     25.033  49.218  -7.039  1.00  0.13      1SG 124
ATOM  124  O   ARG  15     25.976  49.374  -7.813  1.00  0.13      1SG 125
ATOM  125  N   ILE  16     24.144  48.220  -7.185  1.00  0.12      1SG 126
ATOM  126  CA  ILE  16     24.295  47.330  -8.294  1.00  0.12      1SG 127
ATOM  127  CB  ILE  16     24.817  45.969  -7.928  1.00  0.12      1SG 128
ATOM  128  CG2 ILE  16     26.224  46.139  -7.331  1.00  0.12      1SG 129
ATOM  129  CG1 ILE  16     23.828  45.237  -7.005  1.00  0.12      1SG 130
ATOM  130  CD1 ILE  16     24.141  43.749  -6.850  1.00  0.12      1SG 131
ATOM  131  C   ILE  16     22.948  47.120  -8.892  1.00  0.12      1SG 132
ATOM  132  O   ILE  16     21.939  47.597  -8.374  1.00  0.12      1SG 133
ATOM  133  N   PHE  17     22.919  46.404 -10.030  1.00  0.17      1SG 134
ATOM  134  CA  PHE  17     21.684  46.108 -10.688  1.00  0.17      1SG 135
ATOM  135  CB  PHE  17     21.755  46.075 -12.223  1.00  0.17      1SG 136
ATOM  136  CG  PHE  17     21.919  47.447 -12.765  1.00  0.17      1SG 137
ATOM  137  CD1 PHE  17     20.844  48.303 -12.811  1.00  0.17      1SG 138
ATOM  138  CD2 PHE  17     23.137  47.862 -13.248  1.00  0.17      1SG 139
ATOM  139  CE1 PHE  17     20.984  49.568 -13.324  1.00  0.17      1SG 140
ATOM  140  CE2 PHE  17     23.283  49.126 -13.764  1.00  0.17      1SG 141
ATOM  141  CZ  PHE  17     22.205  49.976 -13.800  1.00  0.17      1SG 142
ATOM  142  C   PHE  17     21.314  44.719 -10.316  1.00  0.17      1SG 143
ATOM  143  O   PHE  17     22.151  43.922  -9.896  1.00  0.17      1SG 144
ATOM  144  N   LYS  18     20.018  44.402 -10.462  1.00  0.22      1SG 145
ATOM  145  CA  LYS  18     19.571  43.082 -10.162  1.00  0.22      1SG 146
ATOM  146  CB  LYS  18     18.040  42.943 -10.187  1.00  0.22      1SG 147
ATOM  147  CG  LYS  18     17.424  43.301 -11.539  1.00  0.22      1SG 148
ATOM  148  CD  LYS  18     15.961  42.882 -11.672  1.00  0.22      1SG 149
ATOM  149  CE  LYS  18     15.353  43.196 -13.039  1.00  0.22      1SG 150
ATOM  150  NZ  LYS  18     14.014  42.574 -13.142  1.00  0.22      1SG 151
ATOM  151  C   LYS  18     20.141  42.189 -11.210  1.00  0.22      1SG 152
ATOM  152  O   LYS  18     20.335  42.596 -12.355  1.00  0.22      1SG 153
ATOM  153  N   GLY  19     20.455  40.940 -10.824  1.00  0.21      1SG 154
ATOM  154  CA  GLY  19     20.986  40.005 -11.767  1.00  0.21      1SG 155
ATOM  155  C   GLY  19     22.474  40.059 -11.692  1.00  0.21      1SG 156
ATOM  156  O   GLY  19     23.160  39.196 -12.236  1.00  0.21      1SG 157
ATOM  157  N   GLU  20     23.017  41.079 -11.005  1.00  0.23      1SG 158
ATOM  158  CA  GLU  20     24.442  41.177 -10.910  1.00  0.23      1SG 159
ATOM  159  CB  GLU  20     24.940  42.579 -10.523  1.00  0.23      1SG 160
ATOM  160  CG  GLU  20     24.680  43.613 -11.619  1.00  0.23      1SG 161
ATOM  161  CD  GLU  20     25.391  43.115 -12.870  1.00  0.23      1SG 162
ATOM  162  OE1 GLU  20     26.556  42.653 -12.741  1.00  0.23      1SG 163
ATOM  163  OE2 GLU  20     24.774  43.175 -13.967  1.00  0.23      1SG 164
ATOM  164  C   GLU  20     24.897  40.218  -9.864  1.00  0.23      1SG 165
ATOM  165  O   GLU  20     24.122  39.806  -9.001  1.00  0.23      1SG 166
ATOM  166  N   ASN  21     26.181  39.822  -9.930  1.00  0.16      1SG 167
ATOM  167  CA  ASN  21     26.694  38.898  -8.965  1.00  0.16      1SG 168
ATOM  168  CB  ASN  21     27.686  37.880  -9.553  1.00  0.16      1SG 169
ATOM  169  CG  ASN  21     26.895  36.971 -10.481  1.00  0.16      1SG 170
ATOM  170  OD1 ASN  21     25.671  36.909 -10.394  1.00  0.16      1SG 171
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ATOM  171  ND2 ASN  21     27.602  36.251 -11.392  1.00  0.16      1SG 172
ATOM  172  C   ASN  21     27.415  39.694  -7.933  1.00  0.16      1SG 173
ATOM  173  O   ASN  21     28.121  40.652  -8.246  1.00  0.16      1SG 174
ATOM  174  N   VAL  22     27.217  39.327  -6.654  1.00  0.07      1SG 175
ATOM  175  CA  VAL  22     27.876  40.026  -5.596  1.00  0.07      1SG 176
ATOM  176  CB  VAL  22     26.922  40.670  -4.632  1.00  0.07      1SG 177
ATOM  177  CG1 VAL  22     27.727  41.288  -3.478  1.00  0.07      1SG 178
ATOM  178  CG2 VAL  22     26.056  41.681  -5.405  1.00  0.07      1SG 179
ATOM  179  C   VAL  22     28.661  39.015  -4.836  1.00  0.07      1SG 180
ATOM  180  O   VAL  22     28.186  37.907  -4.590  1.00  0.07      1SG 181
ATOM  181  N   THR  23     29.908  39.362  -4.469  1.00  0.06      1SG 182
ATOM  182  CA  THR  23     30.692  38.440  -3.706  1.00  0.06      1SG 183
ATOM  183  CB  THR  23     31.980  38.047  -4.368  1.00  0.06      1SG 184
ATOM  184  OG1 THR  23     31.714  37.430  -5.619  1.00  0.06      1SG 185
ATOM  185  CG2 THR  23     32.727  37.067  -3.446  1.00  0.06      1SG 186
ATOM  186  C   THR  23     31.044  39.117  -2.425  1.00  0.06      1SG 187
ATOM  187  O   THR  23     31.577  40.225  -2.418  1.00  0.06      1SG 188
ATOM  188  N   LEU  24     30.731  38.460  -1.295  1.00  0.06      1SG 189
ATOM  189  CA  LEU  24     31.057  39.021  -0.020  1.00  0.06      1SG 190
ATOM  190  CB  LEU  24     29.871  39.048   0.956  1.00  0.06      1SG 191
ATOM  191  CG  LEU  24     28.702  39.930   0.479  1.00  0.06      1SG 192
ATOM  192  CD2 LEU  24     29.182  41.346   0.123  1.00  0.06      1SG 193
ATOM  193  CD1 LEU  24     27.548  39.924   1.495  1.00  0.06      1SG 194
ATOM  194  C   LEU  24     32.076  38.112   0.572  1.00  0.06      1SG 195
ATOM  195  O   LEU  24     31.886  36.898   0.615  1.00  0.06      1SG 196
ATOM  196  N   THR  25     33.206  38.678   1.030  1.00  0.28      1SG 197
ATOM  197  CA  THR  25     34.202  37.838   1.616  1.00  0.28      1SG 198
ATOM  198  CB  THR  25     35.507  37.852   0.876  1.00  0.28      1SG 199
ATOM  199  OG1 THR  25     35.319  37.412  -0.461  1.00  0.28      1SG 200
ATOM  200  CG2 THR  25     36.496  36.927   1.605  1.00  0.28      1SG 201
ATOM  201  C   THR  25     34.460  38.367   2.979  1.00  0.28      1SG 202
ATOM  202  O   THR  25     34.579  39.572   3.187  1.00  0.28      1SG 203
ATOM  203  N   CYS  26     34.543  37.462   3.960  1.00  0.52      1SG 204
ATOM  204  CA  CYS  26     34.770  37.922   5.286  1.00  0.52      1SG 205
ATOM  205  CB  CYS  26     33.724  37.332   6.226  1.00  0.52      1SG 206
ATOM  206  SG  CYS  26     33.905  37.844   7.940  1.00  0.52      1SG 207
ATOM  207  C   CYS  26     36.111  37.410   5.681  1.00  0.52      1SG 208
ATOM  208  O   CYS  26     36.327  36.201   5.748  1.00  0.52      1SG 209
ATOM  209  N   ASN  27     37.050  38.332   5.961  1.00  0.35      1SG 210
ATOM  210  CA  ASN  27     38.377  37.918   6.298  1.00  0.35      1SG 211
ATOM  211  CB  ASN  27     39.472  38.673   5.527  1.00  0.35      1SG 212
ATOM  212  CG  ASN  27     39.389  40.140   5.927  1.00  0.35      1SG 213
ATOM  213  OD1 ASN  27     38.320  40.747   5.897  1.00  0.35      1SG 214
ATOM  214  ND2 ASN  27     40.549  40.726   6.326  1.00  0.35      1SG 215
ATOM  215  C   ASN  27     38.595  38.211   7.743  1.00  0.35      1SG 216
ATOM  216  O   ASN  27     37.972  39.107   8.310  1.00  0.35      1SG 217
ATOM  217  N   GLY  28     39.483  37.427   8.381  1.00  0.15      1SG 218
ATOM  218  CA  GLY  28     39.779  37.636   9.765  1.00  0.15      1SG 219
ATOM  219  C   GLY  28     40.251  36.330  10.306  1.00  0.15      1SG 220
ATOM  220  O   GLY  28     40.302  35.333   9.587  1.00  0.15      1SG 221
ATOM  221  N   ASN  29     40.604  36.299  11.606  1.00  0.16      1SG 222
ATOM  222  CA  ASN  29     41.053  35.065  12.173  1.00  0.16      1SG 223
ATOM  223  CB  ASN  29     41.554  35.176  13.624  1.00  0.16      1SG 224
ATOM  224  CG  ASN  29     42.895  35.895  13.621  1.00  0.16      1SG 225
ATOM  225  OD1 ASN  29     43.494  36.131  12.573  1.00  0.16      1SG 226
ATOM  226  ND2 ASN  29     43.391  36.241  14.838  1.00  0.16      1SG 227
ATOM  227  C   ASN  29     39.883  34.143  12.168  1.00  0.16      1SG 228
ATOM  228  O   ASN  29     38.741  34.566  12.336  1.00  0.16      1SG 229
ATOM  229  N   ASN  30     40.148  32.843  11.949  1.00  0.16      1SG 230
ATOM  230  CA  ASN  30     39.080  31.893  11.889  1.00  0.16      1SG 231
ATOM  231  CB  ASN  30     38.855  31.359  10.468  1.00  0.16      1SG 232
ATOM  232  CG  ASN  30     37.718  30.355  10.511  1.00  0.16      1SG 233
ATOM  233  OD1 ASN  30     36.716  30.535  11.200  1.00  0.16      1SG 234
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ATOM  234  ND2 ASN  30     37.899  29.239   9.758  1.00  0.16      1SG 235
ATOM  235  C   ASN  30     39.436  30.721  12.744  1.00  0.16      1SG 236
ATOM  236  O   ASN  30     40.609  30.390  12.909  1.00  0.16      1SG 237
ATOM  237  N   PHE  31     38.409  30.073  13.332  1.00  0.12      1SG 238
ATOM  238  CA  PHE  31     38.628  28.899  14.123  1.00  0.12      1SG 239
ATOM  239  CB  PHE  31     37.510  28.639  15.146  1.00  0.12      1SG 240
ATOM  240  CG  PHE  31     37.857  27.404  15.902  1.00  0.12      1SG 241
ATOM  241  CD1 PHE  31     38.774  27.447  16.927  1.00  0.12      1SG 242
ATOM  242  CD2 PHE  31     37.260  26.205  15.592  1.00  0.12      1SG 243
ATOM  243  CE1 PHE  31     39.092  26.310  17.631  1.00  0.12      1SG 244
ATOM  244  CE2 PHE  31     37.575  25.064  16.292  1.00  0.12      1SG 245
ATOM  245  CZ  PHE  31     38.495  25.115  17.312  1.00  0.12      1SG 246
ATOM  246  C   PHE  31     38.639  27.765  13.155  1.00  0.12      1SG 247
ATOM  247  O   PHE  31     38.118  27.888  12.049  1.00  0.12      1SG 248
ATOM  248  N   PHE  32     39.248  26.626  13.528  1.00  0.11      1SG 249
ATOM  249  CA  PHE  32     39.265  25.565  12.570  1.00  0.11      1SG 250
ATOM  250  CB  PHE  32     40.426  24.579  12.773  1.00  0.11      1SG 251
ATOM  251  CG  PHE  32     41.663  25.381  12.563  1.00  0.11      1SG 252
ATOM  252  CD1 PHE  32     42.195  26.109  13.602  1.00  0.11      1SG 253
ATOM  253  CD2 PHE  32     42.284  25.417  11.337  1.00  0.11      1SG 254
ATOM  254  CE1 PHE  32     43.335  26.857  13.428  1.00  0.11      1SG 255
ATOM  255  CE2 PHE  32     43.424  26.164  11.157  1.00  0.11      1SG 256
ATOM  256  CZ  PHE  32     43.952  26.885  12.201  1.00  0.11      1SG 257
ATOM  257  C   PHE  32     37.980  24.827  12.710  1.00  0.11      1SG 258
ATOM  258  O   PHE  32     37.879  23.858  13.460  1.00  0.11      1SG 259
ATOM  259  N   GLU  33     36.949  25.287  11.977  1.00  0.10      1SG 260
ATOM  260  CA  GLU  33     35.673  24.643  12.038  1.00  0.10      1SG 261
ATOM  261  CB  GLU  33     34.682  25.327  12.994  1.00  0.10      1SG 262
ATOM  262  CG  GLU  33     34.364  26.773  12.610  1.00  0.10      1SG 263
ATOM  263  CD  GLU  33     33.383  27.314  13.638  1.00  0.10      1SG 264
ATOM  264  OE1 GLU  33     32.437  26.565  13.999  1.00  0.10      1SG 265
ATOM  265  OE2 GLU  33     33.567  28.481  14.077  1.00  0.10      1SG 266
ATOM  266  C   GLU  33     35.076  24.698  10.672  1.00  0.10      1SG 267
ATOM  267  O   GLU  33     35.453  25.532   9.849  1.00  0.10      1SG 268
ATOM  268  N   VAL  34     34.130  23.784  10.391  1.00  0.09      1SG 269
ATOM  269  CA  VAL  34     33.509  23.763   9.103  1.00  0.09      1SG 270
ATOM  270  CB  VAL  34     32.562  22.612   8.943  1.00  0.09      1SG 271
ATOM  271  CG1 VAL  34     31.945  22.676   7.538  1.00  0.09      1SG 272
ATOM  272  CG2 VAL  34     33.335  21.310   9.215  1.00  0.09      1SG 273
ATOM  273  C   VAL  34     32.742  25.032   8.926  1.00  0.09      1SG 274
ATOM  274  O   VAL  34     32.854  25.693   7.895  1.00  0.09      1SG 275
ATOM  275  N   SER  35     31.953  25.431   9.942  1.00  0.11      1SG 276
ATOM  276  CA  SER  35     31.202  26.645   9.800  1.00  0.11      1SG 277
ATOM  277  CB  SER  35     29.838  26.613  10.522  1.00  0.11      1SG 278
ATOM  278  OG  SER  35     30.011  26.400  11.915  1.00  0.11      1SG 279
ATOM  279  C   SER  35     32.033  27.743  10.378  1.00  0.11      1SG 280
ATOM  280  O   SER  35     31.856  28.153  11.524  1.00  0.11      1SG 281
ATOM  281  N   SER  36     32.974  28.249   9.563  1.00  0.27      1SG 282
ATOM  282  CA  SER  36     33.906  29.251   9.984  1.00  0.27      1SG 283
ATOM  283  CB  SER  36     34.962  29.539   8.905  1.00  0.27      1SG 284
ATOM  284  OG  SER  36     35.648  28.343   8.571  1.00  0.27      1SG 285
ATOM  285  C   SER  36     33.204  30.541  10.256  1.00  0.27      1SG 286
ATOM  286  O   SER  36     33.439  31.186  11.277  1.00  0.27      1SG 287
ATOM  287  N   THR  37     32.290  30.954   9.360  1.00  0.48      1SG 288
ATOM  288  CA  THR  37     31.752  32.266   9.550  1.00  0.48      1SG 289
ATOM  289  CB  THR  37     32.132  33.216   8.462  1.00  0.48      1SG 290
ATOM  290  OG1 THR  37     31.579  34.490   8.737  1.00  0.48      1SG 291
ATOM  291  CG2 THR  37     31.591  32.685   7.124  1.00  0.48      1SG 292
ATOM  292  C   THR  37     30.265  32.253   9.596  1.00  0.48      1SG 293
ATOM  293  O   THR  37     29.607  31.337   9.105  1.00  0.48      1SG 294
ATOM  294  N   LYS  38     29.708  33.307  10.225  1.00  0.41      1SG 295
ATOM  295  CA  LYS  38     28.291  33.482  10.294  1.00  0.41      1SG 296
ATOM  296  CB  LYS  38     27.770  33.754  11.715  1.00  0.41      1SG 297
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ATOM  297  CG  LYS  38      28.245  32.739  12.757  1.00  0.41      1SG 298
ATOM  298  CD  LYS  38      29.734  32.877  13.087  1.00  0.41      1SG 299
ATOM  299  CE  LYS  38      30.193  32.030  14.276  1.00  0.41      1SG 300
ATOM  300  NZ  LYS  38      31.621  32.301  14.565  1.00  0.41      1SG 301
ATOM  301  C   LYS  38      28.013  34.720   9.506  1.00  0.41      1SG 302
ATOM  302  O   LYS  38      28.709  35.726   9.652  1.00  0.41      1SG 303
ATOM  303  N   TRP  39      26.998  34.677   8.624  1.00  0.18      1SG 304
ATOM  304  CA  TRP  39      26.680  35.852   7.870  1.00  0.18      1SG 305
ATOM  305  CB  TRP  39      26.599  35.645   6.344  1.00  0.18      1SG 306
ATOM  306  CG  TRP  39      27.940  35.495   5.663  1.00  0.18      1SG 307
ATOM  307  CD2 TRP  39      28.804  36.606   5.377  1.00  0.18      1SG 308
ATOM  308  CD1 TRP  39      28.585  34.378   5.220  1.00  0.18      1SG 309
ATOM  309  NE1 TRP  39      29.800  34.725   4.672  1.00  0.18      1SG 310
ATOM  310  CE2 TRP  39      29.947  36.094   4.764  1.00  0.18      1SG 311
ATOM  311  CE3 TRP  39      28.656  37.943   5.611  1.00  0.18      1SG 312
ATOM  312  CZ2 TRP  39      30.964  36.918   4.374  1.00  0.18      1SG 313
ATOM  313  CZ3 TRP  39      29.681  38.772   5.214  1.00  0.18      1SG 314
ATOM  314  CH2 TRP  39      30.813  38.269   4.607  1.00  0.18      1SG 315
ATOM  315  C   TRP  39      25.345  36.329   8.319  1.00  0.18      1SG 316
ATOM  316  O   TRP  39      24.473  35.536   8.668  1.00  0.18      1SG 317
ATOM  317  N   PHE  40      25.166  37.662   8.355  1.00  0.08      1SG 318
ATOM  318  CA  PHE  40      23.898  38.177   8.759  1.00  0.08      1SG 319
ATOM  319  CB  PHE  40      23.942  38.924  10.102  1.00  0.08      1SG 320
ATOM  320  CG  PHE  40      24.268  37.911  11.142  1.00  0.08      1SG 321
ATOM  321  CD1 PHE  40      25.575  37.560  11.393  1.00  0.08      1SG 322
ATOM  322  CD2 PHE  40      23.262  37.311  11.865  1.00  0.08      1SG 323
ATOM  323  CE1 PHE  40      25.872  36.623  12.352  1.00  0.08      1SG 324
ATOM  324  CE2 PHE  40      23.555  36.372  12.826  1.00  0.08      1SG 325
ATOM  325  CZ  PHE  40      24.863  36.028  13.071  1.00  0.08      1SG 326
ATOM  326  C   PHE  40      23.449  39.146   7.721  1.00  0.08      1SG 327
ATOM  327  O   PHE  40      24.243  39.920   7.189  1.00  0.08      1SG 328
ATOM  328  N   HIS  41      22.150  39.090   7.382  1.00  0.10      1SG 329
ATOM  329  CA  HIS  41      21.589  40.033   6.468  1.00  0.10      1SG 330
ATOM  330  ND1 HIS  41      19.882  40.132   3.044  1.00  0.10      1SG 331
ATOM  331  CG  HIS  41      20.491  40.427   4.242  1.00  0.10      1SG 332
ATOM  332  CB  HIS  41      20.942  39.397   5.232  1.00  0.10      1SG 333
ATOM  333  NE2 HIS  41      20.036  42.349   3.153  1.00  0.10      1SG 334
ATOM  334  CD2 HIS  41      20.577  41.784   4.294  1.00  0.10      1SG 335
ATOM  335  CE1 HIS  41      19.631  41.317   2.434  1.00  0.10      1SG 336
ATOM  336  C   HIS  41      20.508  40.722   7.226  1.00  0.10      1SG 337
ATOM  337  O   HIS  41      19.557  40.090   7.682  1.00  0.10      1SG 338
ATOM  338  N   ASN  42      20.632  42.049   7.386  1.00  0.11      1SG 339
ATOM  339  CA  ASN  42      19.651  42.772   8.132  1.00  0.11      1SG 340
ATOM  340  CB  ASN  42      18.252  42.764   7.489  1.00  0.11      1SG 341
ATOM  341  CG  ASN  42      18.291  43.691   6.283  1.00  0.11      1SG 342
ATOM  342  OD1 ASN  42      19.275  44.395   6.062  1.00  0.11      1SG 343
ATOM  343  ND2 ASN  42      17.185  43.710   5.492  1.00  0.11      1SG 344
ATOM  344  C   ASN  42      19.566  42.155   9.490  1.00  0.11      1SG 345
ATOM  345  O   ASN  42      18.525  42.200  10.144  1.00  0.11      1SG 346
ATOM  346  N   GLY  43      20.683  41.567   9.955  1.00  0.08      1SG 347
ATOM  347  CA  GLY  43      20.714  41.014  11.277  1.00  0.08      1SG 348
ATOM  348  C   GLY  43      20.172  39.620  11.264  1.00  0.08      1SG 349
ATOM  349  O   GLY  43      20.036  39.001  12.318  1.00  0.08      1SG 350
ATOM  350  N   SER  44      19.844  39.074  10.079  1.00  0.15      1SG 351
ATOM  351  CA  SER  44      19.330  37.735  10.068  1.00  0.15      1SG 352
ATOM  352  CB  SER  44      18.218  37.498   9.034  1.00  0.15      1SG 353
ATOM  353  OG  SER  44      18.737  37.641   7.720  1.00  0.15      1SG 354
ATOM  354  C   SER  44      20.464  36.832   9.717  1.00  0.15      1SG 355
ATOM  355  O   SER  44      21.203  37.085   8.769  1.00  0.15      1SG 356
ATOM  356  N   LEU  45      20.638  35.747  10.491  1.00  0.35      1SG 357
ATOM  357  CA  LEU  45      21.720  34.843  10.241  1.00  0.35      1SG 358
ATOM  358  CB  LEU  45      21.939  33.852  11.413  1.00  0.35      1SG 359
ATOM  359  CG  LEU  45      23.091  32.823  11.298  1.00  0.35      1SG 360
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ATOM  360  CD2 LEU  45     22.938  31.865  10.100  1.00  0.35      1SG 361
ATOM  361  CD1 LEU  45     23.226  32.022  12.602  1.00  0.35      1SG 362
ATOM  362  C   LEU  45     21.398  34.097   8.988  1.00  0.35      1SG 363
ATOM  363  O   LEU  45     20.249  33.736   8.740  1.00  0.35      1SG 364
ATOM  364  N   SER  46     22.430  33.863   8.153  1.00  0.48      1SG 365
ATOM  365  CA  SER  46     22.263  33.118   6.938  1.00  0.48      1SG 366
ATOM  366  CB  SER  46     22.957  33.730   5.707  1.00  0.48      1SG 367
ATOM  367  OG  SER  46     22.355  34.958   5.334  1.00  0.48      1SG 368
ATOM  368  C   SER  46     22.960  31.813   7.135  1.00  0.48      1SG 369
ATOM  369  O   SER  46     24.137  31.770   7.487  1.00  0.48      1SG 370
ATOM  370  N   GLU  47     22.221  30.711   6.936  1.00  0.44      1SG 371
ATOM  371  CA  GLU  47     22.724  29.371   7.017  1.00  0.44      1SG 372
ATOM  372  CB  GLU  47     21.604  28.321   7.026  1.00  0.44      1SG 373
ATOM  373  CG  GLU  47     20.768  28.350   5.745  1.00  0.44      1SG 374
ATOM  374  CD  GLU  47     19.700  27.272   5.839  1.00  0.44      1SG 375
ATOM  375  OE1 GLU  47     19.539  26.690   6.945  1.00  0.44      1SG 376
ATOM  376  OE2 GLU  47     19.030  27.016   4.803  1.00  0.44      1SG 377
ATOM  377  C   GLU  47     23.552  29.092   5.800  1.00  0.44      1SG 378
ATOM  378  O   GLU  47     24.413  28.215   5.800  1.00  0.44      1SG 379
ATOM  379  N   GLU  48     23.288  29.858   4.730  1.00  0.45      1SG 380
ATOM  380  CA  GLU  48     23.741  29.635   3.387  1.00  0.45      1SG 381
ATOM  381  CB  GLU  48     23.284  30.775   2.465  1.00  0.45      1SG 382
ATOM  382  CG  GLU  48     23.798  32.140   2.929  1.00  0.45      1SG 383
ATOM  383  CD  GLU  48     23.187  33.215   2.041  1.00  0.45      1SG 384
ATOM  384  OE1 GLU  48     22.440  32.852   1.094  1.00  0.45      1SG 385
ATOM  385  OE2 GLU  48     23.459  34.417   2.302  1.00  0.45      1SG 386
ATOM  386  C   GLU  48     25.226  29.496   3.195  1.00  0.45      1SG 387
ATOM  387  O   GLU  48     25.647  28.553   2.528  1.00  0.45      1SG 388
ATOM  388  N   THR  49     26.087  30.365   3.758  1.00  0.55      1SG 389
ATOM  389  CA  THR  49     27.427  30.251   3.247  1.00  0.55      1SG 390
ATOM  390  CB  THR  49     27.684  31.331   2.235  1.00  0.55      1SG 391
ATOM  391  OG1 THR  49     28.936  31.166   1.589  1.00  0.55      1SG 392
ATOM  392  CG2 THR  49     27.629  32.679   2.968  1.00  0.55      1SG 393
ATOM  393  C   THR  49     28.482  30.361   4.310  1.00  0.55      1SG 394
ATOM  394  O   THR  49     28.213  30.658   5.473  1.00  0.55      1SG 395
ATOM  395  N   ASN  50     29.736  30.090   3.881  1.00  0.44      1SG 396
ATOM  396  CA  ASN  50     30.937  30.109   4.665  1.00  0.44      1SG 397
ATOM  397  CB  ASN  50     31.925  28.990   4.291  1.00  0.44      1SG 398
ATOM  398  CG  ASN  50     31.335  27.665   4.747  1.00  0.44      1SG 399
ATOM  399  OD1 ASN  50     31.044  27.481   5.927  1.00  0.44      1SG 400
ATOM  400  ND2 ASN  50     31.153  26.715   3.790  1.00  0.44      1SG 401
ATOM  401  C   ASN  50     31.648  31.407   4.437  1.00  0.44      1SG 402
ATOM  402  O   ASN  50     31.038  32.472   4.355  1.00  0.44      1SG 403
ATOM  403  N   SER  51     32.990  31.325   4.329  1.00  0.25      1SG 404
ATOM  404  CA  SER  51     33.843  32.473   4.237  1.00  0.25      1SG 405
ATOM  405  CB  SER  51     35.323  32.099   4.049  1.00  0.25      1SG 406
ATOM  406  OG  SER  51     35.506  31.465   2.792  1.00  0.25      1SG 407
ATOM  407  C   SER  51     33.455  33.328   3.073  1.00  0.25      1SG 408
ATOM  408  O   SER  51     33.338  34.545   3.215  1.00  0.25      1SG 409
ATOM  409  N   SER  52     33.234  32.733   1.887  1.00  0.14      1SG 410
ATOM  410  CA  SER  52     32.906  33.575   0.772  1.00  0.14      1SG 411
ATOM  411  CB  SER  52     33.750  33.288  -0.481  1.00  0.14      1SG 412
ATOM  412  OG  SER  52     35.116  33.578  -0.227  1.00  0.14      1SG 413
ATOM  413  C   SER  52     31.480  33.343   0.406  1.00  0.14      1SG 414
ATOM  414  O   SER  52     31.035  32.204   0.274  1.00  0.14      1SG 415
ATOM  415  N   LEU  53     30.709  34.437   0.251  1.00  0.09      1SG 416
ATOM  416  CA  LEU  53     29.346  34.271  -0.150  1.00  0.09      1SG 417
ATOM  417  CB  LEU  53     28.319  34.889   0.816  1.00  0.09      1SG 418
ATOM  418  CG  LEU  53     26.856  34.696   0.368  1.00  0.09      1SG 419
ATOM  419  CD2 LEU  53     25.893  35.495   1.259  1.00  0.09      1SG 420
ATOM  420  CD1 LEU  53     26.482  33.208   0.298  1.00  0.09      1SG 421
ATOM  421  C   LEU  53     29.195  34.941  -1.473  1.00  0.09      1SG 422
ATOM  422  O   LEU  53     29.476  36.130  -1.619  1.00  0.09      1SG 423
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ATOM  423  N   ASN  54      28.760  34.174  -2.488  1.00  0.09      1SG 424
ATOM  424  CA  ASN  54      28.584  34.749  -3.786  1.00  0.09      1SG 425
ATOM  425  CB  ASN  54      29.349  34.011  -4.897  1.00  0.09      1SG 426
ATOM  426  CG  ASN  54      29.234  34.837  -6.169  1.00  0.09      1SG 427
ATOM  427  OD1 ASN  54      28.770  35.975  -6.145  1.00  0.09      1SG 428
ATOM  428  ND2 ASN  54      29.658  34.244  -7.317  1.00  0.09      1SG 429
ATOM  429  C   ASN  54      27.137  34.629  -4.118  1.00  0.09      1SG 430
ATOM  430  O   ASN  54      26.544  33.562  -3.972  1.00  0.09      1SG 431
ATOM  431  N   ILE  55      26.522  35.736  -4.566  1.00  0.08      1SG 432
ATOM  432  CA  ILE  55      25.141  35.665  -4.922  1.00  0.08      1SG 433
ATOM  433  CB  ILE  55      24.258  36.575  -4.120  1.00  0.08      1SG 434
ATOM  434  CG2 ILE  55      24.346  36.152  -2.644  1.00  0.08      1SG 435
ATOM  435  CG1 ILE  55      24.636  38.044  -4.369  1.00  0.08      1SG 436
ATOM  436  CD1 ILE  55      23.600  39.030  -3.832  1.00  0.08      1SG 437
ATOM  437  C   ILE  55      25.039  36.115  -6.337  1.00  0.08      1SG 438
ATOM  438  O   ILE  55      25.773  36.998  -6.779  1.00  0.08      1SG 439
ATOM  439  N   VAL  56      24.119  35.493  -7.090  1.00  0.10      1SG 440
ATOM  440  CA  VAL  56      23.922  35.858  -8.456  1.00  0.10      1SG 441
ATOM  441  CB  VAL  56      23.985  34.683  -9.389  1.00  0.10      1SG 442
ATOM  442  CG1 VAL  56      23.615  35.140 -10.810  1.00  0.10      1SG 443
ATOM  443  CG2 VAL  56      25.383  34.050  -9.280  1.00  0.10      1SG 444
ATOM  444  C   VAL  56      22.544  36.412  -8.532  1.00  0.10      1SG 445
ATOM  445  O   VAL  56      21.686  36.071  -7.719  1.00  0.10      1SG 446
ATOM  446  N   ASN  57      22.312  37.292  -9.523  1.00  0.11      1SG 447
ATOM  447  CA  ASN  57      21.035  37.906  -9.706  1.00  0.11      1SG 448
ATOM  448  CB  ASN  57      19.953  36.958 -10.250  1.00  0.11      1SG 449
ATOM  449  CG  ASN  57      18.801  37.822 -10.747  1.00  0.11      1SG 450
ATOM  450  OD1 ASN  57      18.420  38.801 -10.107  1.00  0.11      1SG 451
ATOM  451  ND2 ASN  57      18.239  37.461 -11.932  1.00  0.11      1SG 452
ATOM  452  C   ASN  57      20.576  38.473  -8.404  1.00  0.11      1SG 453
ATOM  453  O   ASN  57      19.548  38.066  -7.865  1.00  0.11      1SG 454
ATOM  454  N   ALA  58      21.353  39.425  -7.850  1.00  0.21      1SG 455
ATOM  455  CA  ALA  58      20.945  40.022  -6.615  1.00  0.21      1SG 456
ATOM  456  CB  ALA  58      21.884  41.136  -6.118  1.00  0.21      1SG 457
ATOM  457  C   ALA  58      19.608  40.631  -6.871  1.00  0.21      1SG 458
ATOM  458  O   ALA  58      19.393  41.275  -7.897  1.00  0.21      1SG 459
ATOM  459  N   LYS  59      18.660  40.414  -5.941  1.00  0.31      1SG 460
ATOM  460  CA  LYS  59      17.329  40.910  -6.123  1.00  0.31      1SG 461
ATOM  461  CB  LYS  59      16.237  39.929  -5.664  1.00  0.31      1SG 462
ATOM  462  CG  LYS  59      16.172  38.657  -6.511  1.00  0.31      1SG 463
ATOM  463  CD  LYS  59      15.844  38.913  -7.985  1.00  0.31      1SG 464
ATOM  464  CE  LYS  59      15.812  37.638  -8.834  1.00  0.31      1SG 465
ATOM  465  NZ  LYS  59      15.485  37.972 -10.239  1.00  0.31      1SG 466
ATOM  466  C   LYS  59      17.157  42.162  -5.331  1.00  0.31      1SG 467
ATOM  467  O   LYS  59      18.068  42.622  -4.645  1.00  0.31      1SG 468
ATOM  468  N   PHE  60      15.948  42.746  -5.431  1.00  0.23      1SG 469
ATOM  469  CA  PHE  60      15.595  43.928  -4.704  1.00  0.23      1SG 470
ATOM  470  CB  PHE  60      14.165  44.410  -4.999  1.00  0.23      1SG 471
ATOM  471  CG  PHE  60      13.854  45.482  -4.011  1.00  0.23      1SG 472
ATOM  472  CD1 PHE  60      14.289  46.773  -4.202  1.00  0.23      1SG 473
ATOM  473  CD2 PHE  60      13.119  45.189  -2.885  1.00  0.23      1SG 474
ATOM  474  CE1 PHE  60      13.998  47.753  -3.282  1.00  0.23      1SG 475
ATOM  475  CE2 PHE  60      12.825  46.165  -1.962  1.00  0.23      1SG 476
ATOM  476  CZ  PHE  60      13.264  47.451  -2.161  1.00  0.23      1SG 477
ATOM  477  C   PHE  60      15.656  43.581  -3.255  1.00  0.23      1SG 478
ATOM  478  O   PHE  60      16.056  44.387  -2.417  1.00  0.23      1SG 479
ATOM  479  N   GLU  61      15.265  42.337  -2.942  1.00  0.15      1SG 480
ATOM  480  CA  GLU  61      15.215  41.816  -1.609  1.00  0.15      1SG 481
ATOM  481  CB  GLU  61      14.699  40.370  -1.604  1.00  0.15      1SG 482
ATOM  482  CG  GLU  61      15.521  39.448  -2.507  1.00  0.15      1SG 483
ATOM  483  CD  GLU  61      14.713  38.185  -2.765  1.00  0.15      1SG 484
ATOM  484  OE1 GLU  61      14.026  37.714  -1.820  1.00  0.15      1SG 485
ATOM  485  OE2 GLU  61      14.761  37.681  -3.919  1.00  0.15      1SG 486
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ATOM  486  C   GLU  61     16.595  41.837  -1.028  1.00  0.15      1SG 487
ATOM  487  O   GLU  61     16.769  42.050   0.170  1.00  0.15      1SG 488
ATOM  488  N   ASP  62     17.618  41.636  -1.877  1.00  0.16      1SG 489
ATOM  489  CA  ASP  62     18.983  41.538  -1.440  1.00  0.16      1SG 490
ATOM  490  CB  ASP  62     19.962  41.211  -2.582  1.00  0.16      1SG 491
ATOM  491  CG  ASP  62     19.751  39.749  -2.954  1.00  0.16      1SG 492
ATOM  492  OD1 ASP  62     18.944  39.075  -2.259  1.00  0.16      1SG 493
ATOM  493  OD2 ASP  62     20.401  39.282  -3.927  1.00  0.16      1SG 494
ATOM  494  C   ASP  62     19.437  42.801  -0.773  1.00  0.16      1SG 495
ATOM  495  O   ASP  62     20.299  42.749   0.100  1.00  0.16      1SG 496
ATOM  496  N   SER  63     18.904  43.974  -1.168  1.00  0.20      1SG 497
ATOM  497  CA  SER  63     19.352  45.201  -0.565  1.00  0.20      1SG 498
ATOM  498  CB  SER  63     18.578  46.439  -1.050  1.00  0.20      1SG 499
ATOM  499  OG  SER  63     17.217  46.346  -0.655  1.00  0.20      1SG 500
ATOM  500  C   SER  63     19.192  45.109   0.923  1.00  0.20      1SG 501
ATOM  501  O   SER  63     18.201  44.586   1.430  1.00  0.20      1SG 502
ATOM  502  N   GLY  64     20.203  45.609   1.665  1.00  0.22      1SG 503
ATOM  503  CA  GLY  64     20.164  45.561   3.098  1.00  0.22      1SG 504
ATOM  504  C   GLY  64     21.570  45.701   3.585  1.00  0.22      1SG 505
ATOM  505  O   GLY  64     22.472  46.032   2.817  1.00  0.22      1SG 506
ATOM  506  N   GLU  65     21.792  45.447   4.892  1.00  0.19      1SG 507
ATOM  507  CA  GLU  65     23.115  45.557   5.436  1.00  0.19      1SG 508
ATOM  508  CB  GLU  65     23.191  46.214   6.825  1.00  0.19      1SG 509
ATOM  509  CG  GLU  65     22.869  47.707   6.845  1.00  0.19      1SG 510
ATOM  510  CD  GLU  65     23.123  48.205   8.262  1.00  0.19      1SG 511
ATOM  511  OE1 GLU  65     22.725  47.496   9.225  1.00  0.19      1SG 512
ATOM  512  OE2 GLU  65     23.734  49.299   8.401  1.00  0.19      1SG 513
ATOM  513  C   GLU  65     23.647  44.176   5.620  1.00  0.19      1SG 514
ATOM  514  O   GLU  65     22.902  43.245   5.925  1.00  0.19      1SG 515
ATOM  515  N   TYR  66     24.970  44.009   5.422  1.00  0.22      1SG 516
ATOM  516  CA  TYR  66     25.570  42.720   5.594  1.00  0.22      1SG 517
ATOM  517  CB  TYR  66     26.312  42.202   4.348  1.00  0.22      1SG 518
ATOM  518  CG  TYR  66     25.308  41.992   3.266  1.00  0.22      1SG 519
ATOM  519  CD1 TYR  66     24.943  43.031   2.440  1.00  0.22      1SG 520
ATOM  520  CD2 TYR  66     24.726  40.759   3.079  1.00  0.22      1SG 521
ATOM  521  CE1 TYR  66     24.019  42.842   1.440  1.00  0.22      1SG 522
ATOM  522  CE2 TYR  66     23.800  40.563   2.081  1.00  0.22      1SG 523
ATOM  523  CZ  TYR  66     23.446  41.606   1.260  1.00  0.22      1SG 524
ATOM  524  OH  TYR  66     22.497  41.407   0.236  1.00  0.22      1SG 525
ATOM  525  C   TYR  66     26.580  42.828   6.692  1.00  0.22      1SG 526
ATOM  526  O   TYR  66     27.258  43.845   6.835  1.00  0.22      1SG 527
ATOM  527  N   LYS  67     26.683  41.768   7.516  1.00  0.45      1SG 528
ATOM  528  CA  LYS  67     27.618  41.753   8.602  1.00  0.45      1SG 529
ATOM  529  CB  LYS  67     26.953  42.023   9.958  1.00  0.45      1SG 530
ATOM  530  CG  LYS  67     26.340  43.420  10.055  1.00  0.45      1SG 531
ATOM  531  CD  LYS  67     25.324  43.562  11.188  1.00  0.45      1SG 532
ATOM  532  CE  LYS  67     23.974  42.913  10.871  1.00  0.45      1SG 533
ATOM  533  NZ  LYS  67     23.325  43.628   9.750  1.00  0.45      1SG 534
ATOM  534  C   LYS  67     28.183  40.371   8.662  1.00  0.45      1SG 535
ATOM  535  O   LYS  67     27.569  39.421   8.180  1.00  0.45      1SG 536
ATOM  536  N   CYS  68     29.390  40.228   9.244  1.00  0.52      1SG 537
ATOM  537  CA  CYS  68     30.003  38.935   9.333  1.00  0.52      1SG 538
ATOM  538  CB  CYS  68     31.059  38.703   8.250  1.00  0.52      1SG 539
ATOM  539  SG  CYS  68     32.113  37.291   8.666  1.00  0.52      1SG 540
ATOM  540  C   CYS  68     30.754  38.840  10.621  1.00  0.52      1SG 541
ATOM  541  O   CYS  68     31.295  39.830  11.110  1.00  0.52      1SG 542
ATOM  542  N   GLN  69     30.796  37.631  11.218  1.00  0.27      1SG 543
ATOM  543  CA  GLN  69     31.610  37.462  12.382  1.00  0.27      1SG 544
ATOM  544  CB  GLN  69     30.855  37.549  13.718  1.00  0.27      1SG 545
ATOM  545  CG  GLN  69     29.833  36.434  13.927  1.00  0.27      1SG 546
ATOM  546  CD  GLN  69     29.290  36.575  15.342  1.00  0.27      1SG 547
ATOM  547  OE1 GLN  69     29.847  37.306  16.160  1.00  0.27      1SG 548
ATOM  548  NE2 GLN  69     28.177  35.853  15.642  1.00  0.27      1SG 549
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ATOM  549  C   GLN  69     32.221  36.103  12.322  1.00  0.27      1SG 550
ATOM  550  O   GLN  69     31.741  35.214  11.620  1.00  0.27      1SG 551
ATOM  551  N   HIS  70     33.333  35.928  13.056  1.00  0.11      1SG 552
ATOM  552  CA  HIS  70     33.988  34.660  13.145  1.00  0.11      1SG 553
ATOM  553  ND1 HIS  70     35.166  33.594  10.252  1.00  0.11      1SG 554
ATOM  554  CG  HIS  70     35.399  34.688  11.056  1.00  0.11      1SG 555
ATOM  555  CB  HIS  70     35.405  34.631  12.551  1.00  0.11      1SG 556
ATOM  556  NE2 HIS  70     35.486  35.325   8.894  1.00  0.11      1SG 557
ATOM  557  CD2 HIS  70     35.593  35.736  10.211  1.00  0.11      1SG 558
ATOM  558  CE1 HIS  70     35.229  34.031   8.970  1.00  0.11      1SG 559
ATOM  559  C   HIS  70     34.110  34.372  14.599  1.00  0.11      1SG 560
ATOM  560  O   HIS  70     33.793  35.212  15.438  1.00  0.11      1SG 561
ATOM  561  N   GLN  71     34.541  33.146  14.938  1.00  0.12      1SG 562
ATOM  562  CA  GLN  71     34.685  32.822  16.322  1.00  0.12      1SG 563
ATOM  563  CB  GLN  71     35.169  31.379  16.553  1.00  0.12      1SG 564
ATOM  564  CG  GLN  71     34.160  30.298  16.156  1.00  0.12      1SG 565
ATOM  565  CD  GLN  71     33.100  30.213  17.246  1.00  0.12      1SG 566
ATOM  566  OE1 GLN  71     33.038  31.052  18.143  1.00  0.12      1SG 567
ATOM  567  NE2 GLN  71     32.237  29.166  17.171  1.00  0.12      1SG 568
ATOM  568  C   GLN  71     35.731  33.730  16.880  1.00  0.12      1SG 569
ATOM  569  O   GLN  71     35.580  34.277  17.970  1.00  0.12      1SG 570
ATOM  570  N   GLN  72     36.827  33.913  16.123  1.00  0.21      1SG 571
ATOM  571  CA  GLN  72     37.952  34.675  16.575  1.00  0.21      1SG 572
ATOM  572  CB  GLN  72     39.129  34.611  15.587  1.00  0.21      1SG 573
ATOM  573  CG  GLN  72     39.531  33.182  15.217  1.00  0.21      1SG 574
ATOM  574  CD  GLN  72     39.805  32.408  16.498  1.00  0.21      1SG 575
ATOM  575  OE1 GLN  72     40.001  32.986  17.566  1.00  0.21      1SG 576
ATOM  576  NE2 GLN  72     39.809  31.053  16.390  1.00  0.21      1SG 577
ATOM  577  C   GLN  72     37.612  36.126  16.723  1.00  0.21      1SG 578
ATOM  578  O   GLN  72     37.927  36.739  17.741  1.00  0.21      1SG 579
ATOM  579  N   VAL  73     36.943  36.714  15.712  1.00  0.31      1SG 580
ATOM  580  CA  VAL  73     36.757  38.137  15.714  1.00  0.31      1SG 581
ATOM  581  CB  VAL  73     36.891  38.749  14.349  1.00  0.31      1SG 582
ATOM  582  CG1 VAL  73     38.329  38.520  13.852  1.00  0.31      1SG 583
ATOM  583  CG2 VAL  73     35.809  38.152  13.433  1.00  0.31      1SG 584
ATOM  584  C   VAL  73     35.419  38.532  16.245  1.00  0.31      1SG 585
ATOM  585  O   VAL  73     34.556  37.707  16.541  1.00  0.31      1SG 586
ATOM  586  N   ASN  74     35.258  39.864  16.381  1.00  0.41      1SG 587
ATOM  587  CA  ASN  74     34.078  40.535  16.838  1.00  0.41      1SG 588
ATOM  588  CB  ASN  74     34.389  41.966  17.323  1.00  0.41      1SG 589
ATOM  589  CG  ASN  74     33.215  42.515  18.119  1.00  0.41      1SG 590
ATOM  590  OD1 ASN  74     32.226  41.823  18.353  1.00  0.41      1SG 591
ATOM  591  ND2 ASN  74     33.322  43.804  18.540  1.00  0.41      1SG 592
ATOM  592  C   ASN  74     33.177  40.636  15.647  1.00  0.41      1SG 593
ATOM  593  O   ASN  74     33.389  39.959  14.644  1.00  0.41      1SG 594
ATOM  594  N   GLU  75     32.113  41.457  15.746  1.00  0.48      1SG 595
ATOM  595  CA  GLU  75     31.220  41.642  14.641  1.00  0.48      1SG 596
ATOM  596  CB  GLU  75     29.879  42.271  15.056  1.00  0.48      1SG 597
ATOM  597  CG  GLU  75     29.072  41.393  16.014  1.00  0.48      1SG 598
ATOM  598  CD  GLU  75     28.504  40.229  15.218  1.00  0.48      1SG 599
ATOM  599  OE1 GLU  75     28.423  40.354  13.967  1.00  0.48      1SG 600
ATOM  600  OE2 GLU  75     28.141  39.200  15.848  1.00  0.48      1SG 601
ATOM  601  C   GLU  75     31.884  42.588  13.693  1.00  0.48      1SG 602
ATOM  602  O   GLU  75     32.611  43.491  14.107  1.00  0.48      1SG 603
ATOM  603  N   SER  76     31.657  42.386  12.381  1.00  0.42      1SG 604
ATOM  604  CA  SER  76     32.239  43.230  11.379  1.00  0.42      1SG 605
ATOM  605  CB  SER  76     32.350  42.539  10.010  1.00  0.42      1SG 606
ATOM  606  OG  SER  76     32.918  43.427   9.061  1.00  0.42      1SG 607
ATOM  607  C   SER  76     31.346  44.416  11.208  1.00  0.42      1SG 608
ATOM  608  O   SER  76     30.182  44.388  11.604  1.00  0.42      1SG 609
ATOM  609  N   GLU  77     31.884  45.509  10.627  1.00  0.31      1SG 610
ATOM  610  CA  GLU  77     31.059  46.657  10.396  1.00  0.31      1SG 611
ATOM  611  CB  GLU  77     31.813  47.908   9.915  1.00  0.31      1SG 612
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ATOM  612  CG  GLU  77      32.856  48.431  10.898  1.00  0.31      1SG 613
ATOM  613  CD  GLU  77      34.144  47.681  10.608  1.00  0.31      1SG 614
ATOM  614  OE1 GLU  77      34.416  47.430   9.403  1.00  0.31      1SG 615
ATOM  615  OE2 GLU  77      34.871  47.348  11.581  1.00  0.31      1SG 616
ATOM  616  C   GLU  77      30.149  46.280   9.278  1.00  0.31      1SG 617
ATOM  617  O   GLU  77      30.493  45.470   8.419  1.00  0.31      1SG 618
ATOM  618  N   PRO  78      28.978  46.839   9.296  1.00  0.29      1SG 619
ATOM  619  CA  PRO  78      28.046  46.505   8.257  1.00  0.29      1SG 620
ATOM  620  CD  PRO  78      28.309  47.037  10.573  1.00  0.29      1SG 621
ATOM  621  CB  PRO  78      26.663  46.846   8.806  1.00  0.29      1SG 622
ATOM  622  CG  PRO  78      26.830  46.701  10.328  1.00  0.29      1SG 623
ATOM  623  C   PRO  78      28.349  47.178   6.959  1.00  0.29      1SG 624
ATOM  624  O   PRO  78      28.956  48.248   6.958  1.00  0.29      1SG 625
ATOM  625  N   VAL  79      27.945  46.539   5.845  1.00  0.31      1SG 626
ATOM  626  CA  VAL  79      28.075  47.100   4.536  1.00  0.31      1SG 627
ATOM  627  CB  VAL  79      28.861  46.242   3.590  1.00  0.31      1SG 628
ATOM  628  CG1 VAL  79      28.171  44.872   3.480  1.00  0.31      1SG 629
ATOM  629  CG2 VAL  79      28.983  46.983   2.247  1.00  0.31      1SG 630
ATOM  630  C   VAL  79      26.678  47.181   4.020  1.00  0.31      1SG 631
ATOM  631  O   VAL  79      25.899  46.245   4.193  1.00  0.31      1SG 632
ATOM  632  N   TYR  80      26.305  48.306   3.381  1.00  0.19      1SG 633
ATOM  633  CA  TYR  80      24.946  48.385   2.937  1.00  0.19      1SG 634
ATOM  634  CB  TYR  80      24.256  49.729   3.235  1.00  0.19      1SG 635
ATOM  635  CG  TYR  80      22.813  49.553   2.905  1.00  0.19      1SG 636
ATOM  636  CD1 TYR  80      22.346  49.756   1.626  1.00  0.19      1SG 637
ATOM  637  CD2 TYR  80      21.926  49.172   3.886  1.00  0.19      1SG 638
ATOM  638  CE1 TYR  80      21.013  49.586   1.333  1.00  0.19      1SG 639
ATOM  639  CE2 TYR  80      20.593  49.000   3.600  1.00  0.19      1SG 640
ATOM  640  CZ  TYR  80      20.135  49.209   2.322  1.00  0.19      1SG 641
ATOM  641  OH  TYR  80      18.767  49.033   2.023  1.00  0.19      1SG 642
ATOM  642  C   TYR  80      24.940  48.188   1.459  1.00  0.19      1SG 643
ATOM  643  O   TYR  80      25.745  48.771   0.734  1.00  0.19      1SG 644
ATOM  644  N   LEU  81      24.021  47.332   0.979  1.00  0.08      1SG 645
ATOM  645  CA  LEU  81      23.950  47.054  -0.424  1.00  0.08      1SG 646
ATOM  646  CB  LEU  81      24.024  45.551  -0.740  1.00  0.08      1SG 647
ATOM  647  CG  LEU  81      23.950  45.230  -2.243  1.00  0.08      1SG 648
ATOM  648  CD2 LEU  81      23.763  43.724  -2.484  1.00  0.08      1SG 649
ATOM  649  CD1 LEU  81      25.157  45.810  -2.996  1.00  0.08      1SG 650
ATOM  650  C   LEU  81      22.632  47.548  -0.923  1.00  0.08      1SG 651
ATOM  651  O   LEU  81      21.611  47.411  -0.251  1.00  0.08      1SG 652
ATOM  652  N   GLU  82      22.633  48.166  -2.119  1.00  0.09      1SG 653
ATOM  653  CA  GLU  82      21.417  48.652  -2.696  1.00  0.09      1SG 654
ATOM  654  CB  GLU  82      21.424  50.176  -2.909  1.00  0.09      1SG 655
ATOM  655  CG  GLU  82      21.484  50.982  -1.610  1.00  0.09      1SG 656
ATOM  656  CD  GLU  82      21.724  52.442  -1.972  1.00  0.09      1SG 657
ATOM  657  OE1 GLU  82      21.178  52.895  -3.014  1.00  0.09      1SG 658
ATOM  658  OE2 GLU  82      22.467  53.122  -1.216  1.00  0.09      1SG 659
ATOM  659  C   GLU  82      21.317  48.028  -4.048  1.00  0.09      1SG 660
ATOM  660  O   GLU  82      22.273  48.049  -4.822  1.00  0.09      1SG 661
ATOM  661  N   VAL  83      20.151  47.442  -4.369  1.00  0.09      1SG 662
ATOM  662  CA  VAL  83      19.999  46.839  -5.659  1.00  0.09      1SG 663
ATOM  663  CB  VAL  83      19.493  45.431  -5.602  1.00  0.09      1SG 664
ATOM  664  CG1 VAL  83      20.533  44.566  -4.871  1.00  0.09      1SG 665
ATOM  665  CG2 VAL  83      18.111  45.445  -4.931  1.00  0.09      1SG 666
ATOM  666  C   VAL  83      18.974  47.642  -6.383  1.00  0.09      1SG 667
ATOM  667  O   VAL  83      17.973  48.052  -5.797  1.00  0.09      1SG 668
ATOM  668  N   PHE  84      19.207  47.907  -7.682  1.00  0.23      1SG 669
ATOM  669  CA  PHE  84      18.257  48.698  -8.403  1.00  0.23      1SG 670
ATOM  670  CB  PHE  84      18.805  50.055  -8.873  1.00  0.23      1SG 671
ATOM  671  CG  PHE  84      19.450  50.743  -7.723  1.00  0.23      1SG 672
ATOM  672  CD1 PHE  84      18.715  51.444  -6.799  1.00  0.23      1SG 673
ATOM  673  CD2 PHE  84      20.812  50.670  -7.567  1.00  0.23      1SG 674
ATOM  674  CE1 PHE  84      19.328  52.069  -5.740  1.00  0.23      1SG 675
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ATOM  675  CE2 PHE  84     21.428  51.294  -6.510  1.00  0.23      1SG 676
ATOM  676  CZ  PHE  84     20.689  51.999  -5.594  1.00  0.23      1SG 677
ATOM  677  C   PHE  84     17.966  47.967  -9.668  1.00  0.23      1SG 678
ATOM  678  O   PHE  84     18.750  47.124 -10.101  1.00  0.23      1SG 679
ATOM  679  N   SER  85     16.802  48.247 -10.283  1.00  0.34      1SG 680
ATOM  680  CA  SER  85     16.544  47.653 -11.558  1.00  0.34      1SG 681
ATOM  681  CB  SER  85     15.248  46.824 -11.611  1.00  0.34      1SG 682
ATOM  682  OG  SER  85     14.121  47.637 -11.326  1.00  0.34      1SG 683
ATOM  683  C   SER  85     16.439  48.779 -12.538  1.00  0.34      1SG 684
ATOM  684  O   SER  85     15.403  49.431 -12.656  1.00  0.34      1SG 685
ATOM  685  N   ASP  86     17.538  49.042 -13.267  1.00  0.23      1SG 686
ATOM  686  CA  ASP  86     17.542  50.101 -14.232  1.00  0.23      1SG 687
ATOM  687  CB  ASP  86     18.144  51.413 -13.702  1.00  0.23      1SG 688
ATOM  688  CG  ASP  86     17.182  51.997 -12.678  1.00  0.23      1SG 689
ATOM  689  OD1 ASP  86     15.949  51.949 -12.931  1.00  0.23      1SG 690
ATOM  690  OD2 ASP  86     17.667  52.492 -11.625  1.00  0.23      1SG 691
ATOM  691  C   ASP  86     18.413  49.652 -15.356  1.00  0.23      1SG 692
ATOM  692  O   ASP  86     19.189  48.709 -15.213  1.00  0.23      1SG 693
ATOM  693  N   TRP  87     18.280  50.297 -16.529  1.00  0.14      1SG 694
ATOM  694  CA  TRP  87     19.116  49.918 -17.626  1.00  0.14      1SG 695
ATOM  695  CB  TRP  87     18.696  50.502 -18.982  1.00  0.14      1SG 696
ATOM  696  CG  TRP  87     17.552  49.733 -19.589  1.00  0.14      1SG 697
ATOM  697  CD2 TRP  87     17.711  48.410 -20.124  1.00  0.14      1SG 698
ATOM  698  CD1 TRP  87     16.234  50.051 -19.727  1.00  0.14      1SG 699
ATOM  699  NE1 TRP  87     15.562  49.008 -20.322  1.00  0.14      1SG 700
ATOM  700  CE2 TRP  87     16.460  47.990 -20.570  1.00  0.14      1SG 701
ATOM  701  CE3 TRP  87     18.813  47.610 -20.230  1.00  0.14      1SG 702
ATOM  702  CZ2 TRP  87     16.289  46.756 -21.133  1.00  0.14      1SG 703
ATOM  703  CZ3 TRP  87     18.640  46.369 -20.801  1.00  0.14      1SG 704
ATOM  704  CH2 TRP  87     17.402  45.949 -21.244  1.00  0.14      1SG 705
ATOM  705  C   TRP  87     20.535  50.295 -17.364  1.00  0.14      1SG 706
ATOM  706  O   TRP  87     21.443  49.504 -17.607  1.00  0.14      1SG 707
ATOM  707  N   LEU  88     20.772  51.514 -16.847  1.00  0.12      1SG 708
ATOM  708  CA  LEU  88     22.128  51.938 -16.649  1.00  0.12      1SG 709
ATOM  709  CB  LEU  88     22.571  52.993 -17.679  1.00  0.12      1SG 710
ATOM  710  CG  LEU  88     24.024  53.484 -17.521  1.00  0.12      1SG 711
ATOM  711  CD2 LEU  88     24.277  54.759 -18.343  1.00  0.12      1SG 712
ATOM  712  CD1 LEU  88     25.038  52.377 -17.830  1.00  0.12      1SG 713
ATOM  713  C   LEU  88     22.224  52.584 -15.307  1.00  0.12      1SG 714
ATOM  714  O   LEU  88     21.278  53.228 -14.856  1.00  0.12      1SG 715
ATOM  715  N   LEU  89     23.374  52.412 -14.622  1.00  0.11      1SG 716
ATOM  716  CA  LEU  89     23.535  53.058 -13.352  1.00  0.11      1SG 717
ATOM  717  CB  LEU  89     23.298  52.139 -12.138  1.00  0.11      1SG 718
ATOM  718  CG  LEU  89     23.481  52.831 -10.774  1.00  0.11      1SG 719
ATOM  719  CD2 LEU  89     23.511  51.805  -9.629  1.00  0.11      1SG 720
ATOM  720  CD1 LEU  89     22.428  53.934 -10.560  1.00  0.11      1SG 721
ATOM  721  C   LEU  89     24.951  53.524 -13.265  1.00  0.11      1SG 722
ATOM  722  O   LEU  89     25.847  52.949 -13.882  1.00  0.11      1SG 723
ATOM  723  N   LEU  90     25.182  54.611 -12.507  1.00  0.11      1SG 724
ATOM  724  CA  LEU  90     26.528  55.046 -12.310  1.00  0.11      1SG 725
ATOM  725  CB  LEU  90     26.688  56.576 -12.242  1.00  0.11      1SG 726
ATOM  726  CG  LEU  90     28.146  57.033 -12.047  1.00  0.11      1SG 727
ATOM  727  CD2 LEU  90     28.228  58.537 -11.741  1.00  0.11      1SG 728
ATOM  728  CD1 LEU  90     29.013  56.629 -13.250  1.00  0.11      1SG 729
ATOM  729  C   LEU  90     26.875  54.478 -10.975  1.00  0.11      1SG 730
ATOM  730  O   LEU  90     26.167  54.707  -9.996  1.00  0.11      1SG 731
ATOM  731  N   GLN  91     27.972  53.704 -10.903  1.00  0.11      1SG 732
ATOM  732  CA  GLN  91     28.255  53.028  -9.674  1.00  0.11      1SG 733
ATOM  733  CB  GLN  91     28.619  51.545  -9.880  1.00  0.11      1SG 734
ATOM  734  CG  GLN  91     27.482  50.714 -10.484  1.00  0.11      1SG 735
ATOM  735  CD  GLN  91     27.980  49.285 -10.669  1.00  0.11      1SG 736
ATOM  736  OE1 GLN  91     29.136  49.064 -11.026  1.00  0.11      1SG 737
ATOM  737  NE2 GLN  91     27.089  48.288 -10.419  1.00  0.11      1SG 738
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ATOM   738  C   GLN  91     29.413  53.684  -9.004  1.00  0.11      1SG 739
ATOM   739  O   GLN  91     30.329  54.186  -9.654  1.00  0.11      1SG 740
ATOM   740  N   ALA  92     29.370  53.720  -7.658  1.00  0.18      1SG 741
ATOM   741  CA  ALA  92     30.446  54.291  -6.909  1.00  0.18      1SG 742
ATOM   742  CB  ALA  92     30.134  55.687  -6.346  1.00  0.18      1SG 743
ATOM   743  C   ALA  92     30.703  53.398  -5.743  1.00  0.18      1SG 744
ATOM   744  O   ALA  92     29.797  52.745  -5.231  1.00  0.18      1SG 745
ATOM   745  N   SER  93     31.975  53.316  -5.319  1.00  0.25      1SG 746
ATOM   746  CA  SER  93     32.314  52.505  -4.192  1.00  0.25      1SG 747
ATOM   747  CB  SER  93     33.830  52.393  -3.991  1.00  0.25      1SG 748
ATOM   748  OG  SER  93     34.110  51.577  -2.865  1.00  0.25      1SG 749
ATOM   749  C   SER  93     31.729  53.125  -2.961  1.00  0.25      1SG 750
ATOM   750  O   SER  93     31.113  52.443  -2.144  1.00  0.25      1SG 751
ATOM   751  N   ALA  94     31.898  54.454  -2.798  1.00  0.19      1SG 752
ATOM   752  CA  ALA  94     31.393  55.085  -1.611  1.00  0.19      1SG 753
ATOM   753  CB  ALA  94     32.469  55.303  -0.534  1.00  0.19      1SG 754
ATOM   754  C   ALA  94     30.843  56.428  -1.971  1.00  0.19      1SG 755
ATOM   755  O   ALA  94     31.285  57.069  -2.923  1.00  0.19      1SG 756
ATOM   756  N   GLU  95     29.814  56.855  -1.216  1.00  0.12      1SG 757
ATOM   757  CA  GLU  95     29.169  58.121  -1.400  1.00  0.12      1SG 758
ATOM   758  CB  GLU  95     27.888  58.222  -0.553  1.00  0.12      1SG 759
ATOM   759  CG  GLU  95     26.823  57.198  -0.963  1.00  0.12      1SG 760
ATOM   760  CD  GLU  95     25.743  57.151   0.108  1.00  0.12      1SG 761
ATOM   761  OE1 GLU  95     25.714  58.073   0.966  1.00  0.12      1SG 762
ATOM   762  OE2 GLU  95     24.930  56.188   0.080  1.00  0.12      1SG 763
ATOM   763  C   GLU  95     30.096  59.221  -0.983  1.00  0.12      1SG 764
ATOM   764  O   GLU  95     30.230  60.228  -1.676  1.00  0.12      1SG 765
ATOM   765  N   VAL  96     30.780  59.047   0.164  1.00  0.11      1SG 766
ATOM   766  CA  VAL  96     31.626  60.097   0.652  1.00  0.11      1SG 767
ATOM   767  CB  VAL  96     31.355  60.462   2.080  1.00  0.11      1SG 768
ATOM   768  CG1 VAL  96     32.367  61.537   2.516  1.00  0.11      1SG 769
ATOM   769  CG2 VAL  96     29.886  60.903   2.191  1.00  0.11      1SG 770
ATOM   770  C   VAL  96     33.039  59.638   0.573  1.00  0.11      1SG 771
ATOM   771  O   VAL  96     33.336  58.455   0.737  1.00  0.11      1SG 772
ATOM   772  N   VAL  97     33.954  60.587   0.303  1.00  0.10      1SG 773
ATOM   773  CA  VAL  97     35.339  60.254   0.175  1.00  0.10      1SG 774
ATOM   774  CB  VAL  97     35.826  60.312  -1.243  1.00  0.10      1SG 775
ATOM   775  CG1 VAL  97     35.078  59.249  -2.062  1.00  0.10      1SG 776
ATOM   776  CG2 VAL  97     35.642  61.745  -1.768  1.00  0.10      1SG 777
ATOM   777  C   VAL  97     36.119  61.271   0.931  1.00  0.10      1SG 778
ATOM   778  O   VAL  97     35.603  62.323   1.300  1.00  0.10      1SG 779
ATOM   779  N   MET  98     37.402  60.962   1.185  1.00  0.12      1SG 780
ATOM   780  CA  MET  98     38.263  61.868   1.879  1.00  0.12      1SG 781
ATOM   781  CB  MET  98     39.295  61.145   2.762  1.00  0.12      1SG 782
ATOM   782  CG  MET  98     38.651  60.261   3.835  1.00  0.12      1SG 783
ATOM   783  SD  MET  98     37.735  61.156   5.127  1.00  0.12      1SG 784
ATOM   784  CE  MET  98     39.181  61.447   6.184  1.00  0.12      1SG 785
ATOM   785  C   MET  98     39.008  62.583   0.802  1.00  0.12      1SG 786
ATOM   786  O   MET  98     39.188  62.048  -0.290  1.00  0.12      1SG 787
ATOM   787  N   GLU  99     39.440  63.830   1.057  1.00  0.10      1SG 788
ATOM   788  CA  GLU  99     40.130  64.507   0.002  1.00  0.10      1SG 789
ATOM   789  CB  GLU  99     40.449  65.986   0.286  1.00  0.10      1SG 790
ATOM   790  CG  GLU  99     41.112  66.684  -0.906  1.00  0.10      1SG 791
ATOM   791  CD  GLU  99     41.405  68.130  -0.533  1.00  0.10      1SG 792
ATOM   792  OE1 GLU  99     40.500  68.797   0.034  1.00  0.10      1SG 793
ATOM   793  OE2 GLU  99     42.546  68.586  -0.812  1.00  0.10      1SG 794
ATOM   794  C   GLU  99     41.427  63.806  -0.211  1.00  0.10      1SG 795
ATOM   795  O   GLU  99     42.056  63.330   0.733  1.00  0.10      1SG 796
ATOM   796  N   GLY 100     41.846  63.711  -1.486  1.00  0.20      1SG 797
ATOM   797  CA  GLY 100     43.097  63.098  -1.803  1.00  0.20      1SG 798
ATOM   798  C   GLY 100     42.858  61.680  -2.198  1.00  0.20      1SG 799
ATOM   799  O   GLY 100     43.718  61.061  -2.822  1.00  0.20      1SG 800
ATOM   800  N   GLN 101     41.686  61.111  -1.860  1.00  0.50      1SG 801
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ATOM  801  CA  GLN  101    41.519  59.748  -2.261  1.00  0.50      1SG 802
ATOM  802  CB  GLN  101    40.589  58.891  -1.379  1.00  0.50      1SG 803
ATOM  803  CG  GLN  101    39.119  59.298  -1.332  1.00  0.50      1SG 804
ATOM  804  CD  GLN  101    38.416  58.229  -0.499  1.00  0.50      1SG 805
ATOM  805  OE1 GLN  101    37.204  58.040  -0.574  1.00  0.50      1SG 806
ATOM  806  NE2 GLN  101    39.213  57.489   0.318  1.00  0.50      1SG 807
ATOM  807  C   GLN  101    41.046  59.724  -3.672  1.00  0.50      1SG 808
ATOM  808  O   GLN  101    40.446  60.674  -4.176  1.00  0.50      1SG 809
ATOM  809  N   PRO  102    41.375  58.654  -4.332  1.00  0.57      1SG 810
ATOM  810  CA  PRO  102    40.964  58.525  -5.698  1.00  0.57      1SG 811
ATOM  811  CD  PRO  102    42.668  58.028  -4.098  1.00  0.57      1SG 812
ATOM  812  CB  PRO  102    41.873  57.469  -6.321  1.00  0.57      1SG 813
ATOM  813  CG  PRO  102    43.156  57.556  -5.478  1.00  0.57      1SG 814
ATOM  814  C   PRO  102    39.518  58.180  -5.764  1.00  0.57      1SG 815
ATOM  815  O   PRO  102    39.021  57.507  -4.864  1.00  0.57      1SG 816
ATOM  816  N   LEU  103    38.823  58.637  -6.818  1.00  0.26      1SG 817
ATOM  817  CA  LEU  103    37.446  58.299  -6.967  1.00  0.26      1SG 818
ATOM  818  CB  LEU  103    36.529  59.508  -7.225  1.00  0.26      1SG 819
ATOM  819  CG  LEU  103    35.043  59.129  -7.383  1.00  0.26      1SG 820
ATOM  820  CD2 LEU  103    34.221  60.312  -7.920  1.00  0.26      1SG 821
ATOM  821  CD1 LEU  103    34.473  58.542  -6.082  1.00  0.26      1SG 822
ATOM  822  C   LEU  103    37.366  57.422  -8.164  1.00  0.26      1SG 823
ATOM  823  O   LEU  103    37.940  57.728  -9.207  1.00  0.26      1SG 824
ATOM  824  N   PHE  104    36.674  56.279  -8.032  1.00  0.08      1SG 825
ATOM  825  CA  PHE  104    36.542  55.422  -9.168  1.00  0.08      1SG 826
ATOM  826  CB  PHE  104    37.073  53.998  -8.931  1.00  0.08      1SG 827
ATOM  827  CG  PHE  104    37.001  53.256 -10.222  1.00  0.08      1SG 828
ATOM  828  CD1 PHE  104    37.981  53.414 -11.176  1.00  0.08      1SG 829
ATOM  829  CD2 PHE  104    35.961  52.393 -10.476  1.00  0.08      1SG 830
ATOM  830  CE1 PHE  104    37.919  52.727 -12.365  1.00  0.08      1SG 831
ATOM  831  CE2 PHE  104    35.892  51.703 -11.664  1.00  0.08      1SG 832
ATOM  832  CZ  PHE  104    36.873  51.871 -12.611  1.00  0.08      1SG 833
ATOM  833  C   PHE  104    35.081  55.331  -9.441  1.00  0.08      1SG 834
ATOM  834  O   PHE  104    34.282  55.127  -8.528  1.00  0.08      1SG 835
ATOM  835  N   LEU  105    34.691  55.515 -10.715  1.00  0.10      1SG 836
ATOM  836  CA  LEU  105    33.306  55.440 -11.062  1.00  0.10      1SG 837
ATOM  837  CB  LEU  105    32.705  56.779 -11.524  1.00  0.10      1SG 838
ATOM  838  CG  LEU  105    32.678  57.865 -10.432  1.00  0.10      1SG 839
ATOM  839  CD2 LEU  105    32.015  57.352  -9.144  1.00  0.10      1SG 840
ATOM  840  CD1 LEU  105    32.045  59.163 -10.958  1.00  0.10      1SG 841
ATOM  841  C   LEU  105    33.203  54.497 -12.208  1.00  0.10      1SG 842
ATOM  842  O   LEU  105    34.173  54.269 -12.929  1.00  0.10      1SG 843
ATOM  843  N   ARG  106    32.014  53.900 -12.389  1.00  0.15      1SG 844
ATOM  844  CA  ARG  106    31.866  52.960 -13.452  1.00  0.15      1SG 845
ATOM  845  CB  ARG  106    32.026  51.519 -12.938  1.00  0.15      1SG 846
ATOM  846  CG  ARG  106    31.891  50.409 -13.977  1.00  0.15      1SG 847
ATOM  847  CD  ARG  106    32.273  49.049 -13.387  1.00  0.15      1SG 848
ATOM  848  NE  ARG  106    32.035  48.004 -14.420  1.00  0.15      1SG 849
ATOM  849  CZ  ARG  106    31.108  47.032 -14.187  1.00  0.15      1SG 850
ATOM  850  NH1 ARG  106    30.419  47.031 -13.009  1.00  0.15      1SG 851
ATOM  851  NH2 ARG  106    30.895  46.057 -15.119  1.00  0.15      1SG 852
ATOM  852  C   ARG  106    30.491  53.116 -14.005  1.00  0.15      1SG 853
ATOM  853  O   ARG  106    29.531  53.327 -13.265  1.00  0.15      1SG 854
ATOM  854  N   CYS  107    30.363  53.038 -15.342  1.00  0.16      1SG 855
ATOM  855  CA  CYS  107    29.059  53.096 -15.924  1.00  0.16      1SG 856
ATOM  856  CB  CYS  107    29.005  53.868 -17.255  1.00  0.16      1SG 857
ATOM  857  SG  CYS  107    29.607  55.572 -17.068  1.00  0.16      1SG 858
ATOM  858  C   CYS  107    28.730  51.668 -16.190  1.00  0.16      1SG 859
ATOM  859  O   CYS  107    29.442  50.988 -16.927  1.00  0.16      1SG 860
ATOM  860  N   HIS  108    27.648  51.164 -15.572  1.00  0.11      1SG 861
ATOM  861  CA  HIS  108    27.365  49.768 -15.705  1.00  0.11      1SG 862
ATOM  862  ND1 HIS  108    25.867  46.991 -14.343  1.00  0.11      1SG 863
ATOM  863  CG  HIS  108    27.113  47.571 -14.417  1.00  0.11      1SG 864
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ATOM  864  CB  HIS  108    27.349   49.051  -14.343  1.00  0.11      1SG 865
ATOM  865  NE2 HIS  108    27.329   45.329  -14.542  1.00  0.11      1SG 866
ATOM  866  CD2 HIS  108    27.995   46.542  -14.541  1.00  0.11      1SG 867
ATOM  867  CE1 HIS  108    26.055   45.649  -14.420  1.00  0.11      1SG 868
ATOM  868  C   HIS  108    26.033   49.600  -16.350  1.00  0.11      1SG 869
ATOM  869  O   HIS  108    25.078   50.307  -16.033  1.00  0.11      1SG 870
ATOM  870  N   GLY  109    25.949   48.636  -17.287  1.00  0.09      1SG 871
ATOM  871  CA  GLY  109    24.722   48.381  -17.976  1.00  0.09      1SG 872
ATOM  872  C   GLY  109    24.148   47.131  -17.403  1.00  0.09      1SG 873
ATOM  873  O   GLY  109    24.870   46.270  -16.904  1.00  0.09      1SG 874
ATOM  874  N   TRP  110    22.812   47.003  -17.469  1.00  0.32      1SG 875
ATOM  875  CA  TRP  110    22.150   45.862  -16.919  1.00  0.32      1SG 876
ATOM  876  CB  TRP  110    20.623   46.057  -16.844  1.00  0.32      1SG 877
ATOM  877  CG  TRP  110    19.843   44.901  -16.269  1.00  0.32      1SG 878
ATOM  878  CD2 TRP  110    18.944   44.087  -17.034  1.00  0.32      1SG 879
ATOM  879  CD1 TRP  110    19.782   44.442  -14.985  1.00  0.32      1SG 880
ATOM  880  NE1 TRP  110    18.904   43.387  -14.905  1.00  0.32      1SG 881
ATOM  881  CE2 TRP  110    18.377   43.161  -16.158  1.00  0.32      1SG 882
ATOM  882  CE3 TRP  110    18.613   44.112  -18.358  1.00  0.32      1SG 883
ATOM  883  CZ2 TRP  110    17.467   42.241  -16.595  1.00  0.32      1SG 884
ATOM  884  CZ3 TRP  110    17.696   43.185  -18.796  1.00  0.32      1SG 885
ATOM  885  CH2 TRP  110    17.134   42.268  -17.932  1.00  0.32      1SG 886
ATOM  886  C   TRP  110    22.469   44.684  -17.783  1.00  0.32      1SG 887
ATOM  887  O   TRP  110    22.612   44.803  -18.999  1.00  0.32      1SG 888
ATOM  888  N   ARG  111    22.622   43.507  -17.146  1.00  0.53      1SG 889
ATOM  889  CA  ARG  111    22.948   42.292  -17.835  1.00  0.53      1SG 890
ATOM  890  CB  ARG  111    21.891   41.812  -18.846  1.00  0.53      1SG 891
ATOM  891  CG  ARG  111    20.728   41.061  -18.202  1.00  0.53      1SG 892
ATOM  892  CD  ARG  111    19.970   40.150  -19.176  1.00  0.53      1SG 893
ATOM  893  NE  ARG  111    19.081   40.997  -20.019  1.00  0.53      1SG 894
ATOM  894  CZ  ARG  111    18.507   40.481  -21.145  1.00  0.53      1SG 895
ATOM  895  NH1 ARG  111    18.813   39.213  -21.550  1.00  0.53      1SG 896
ATOM  896  NH2 ARG  111    17.649   41.243  -21.885  1.00  0.53      1SG 897
ATOM  897  C   ARG  111    24.232   42.460  -18.581  1.00  0.53      1SG 898
ATOM  898  O   ARG  111    24.532   41.678  -19.482  1.00  0.53      1SG 899
ATOM  899  N   ASN  112    25.038   43.468  -18.204  1.00  0.33      1SG 900
ATOM  900  CA  ASN  112    26.311   43.678  -18.830  1.00  0.33      1SG 901
ATOM  901  CB  ASN  112    27.335   42.576  -18.504  1.00  0.33      1SG 902
ATOM  902  CG  ASN  112    27.731   42.721  -17.046  1.00  0.33      1SG 903
ATOM  903  OD1 ASN  112    28.052   43.819  -16.594  1.00  0.33      1SG 904
ATOM  904  ND2 ASN  112    27.702   41.592  -16.288  1.00  0.33      1SG 905
ATOM  905  C   ASN  112    26.153   43.727  -20.315  1.00  0.33      1SG 906
ATOM  906  O   ASN  112    26.933   43.116  -21.046  1.00  0.33      1SG 907
ATOM  907  N   TRP  113    25.146   44.464  -20.817  1.00  0.13      1SG 908
ATOM  908  CA  TRP  113    25.015   44.533  -22.240  1.00  0.13      1SG 909
ATOM  909  CB  TRP  113    23.669   45.100  -22.722  1.00  0.13      1SG 910
ATOM  910  CG  TRP  113    22.493   44.191  -22.444  1.00  0.13      1SG 911
ATOM  911  CD2 TRP  113    22.228   42.976  -23.165  1.00  0.13      1SG 912
ATOM  912  CD1 TRP  113    21.509   44.306  -21.504  1.00  0.13      1SG 913
ATOM  913  NE1 TRP  113    20.640   43.244  -21.602  1.00  0.13      1SG 914
ATOM  914  CE2 TRP  113    21.075   42.416  -22.619  1.00  0.13      1SG 915
ATOM  915  CE3 TRP  113    22.895   42.373  -24.195  1.00  0.13      1SG 916
ATOM  916  CZ2 TRP  113    20.571   41.241  -23.102  1.00  0.13      1SG 917
ATOM  917  CZ3 TRP  113    22.379   41.191  -24.679  1.00  0.13      1SG 918
ATOM  918  CH2 TRP  113    21.238   40.635  -24.142  1.00  0.13      1SG 919
ATOM  919  C   TRP  113    26.119   45.405  -22.742  1.00  0.13      1SG 920
ATOM  920  O   TRP  113    26.654   46.236  -22.011  1.00  0.13      1SG 921
ATOM  921  N   ASP  114    26.496   45.227  -24.022  1.00  0.12      1SG 922
ATOM  922  CA  ASP  114    27.588   45.975  -24.571  1.00  0.12      1SG 923
ATOM  923  CB  ASP  114    27.841   45.683  -26.059  1.00  0.12      1SG 924
ATOM  924  CG  ASP  114    28.304   44.241  -26.189  1.00  0.12      1SG 925
ATOM  925  OD1 ASP  114    29.314   43.875  -25.531  1.00  0.12      1SG 926
ATOM  926  OD2 ASP  114    27.652   43.486  -26.958  1.00  0.12      1SG 927
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ATOM   927  C   ASP  114    27.248  47.423 -24.474  1.00  0.12      1SG 928
ATOM   928  O   ASP  114    26.138  47.838 -24.803  1.00  0.12      1SG 929
ATOM   929  N   VAL  115    28.212  48.232 -23.999  1.00  0.21      1SG 930
ATOM   930  CA  VAL  115    27.972  49.637 -23.884  1.00  0.21      1SG 931
ATOM   931  CB  VAL  115    27.896  50.121 -22.466  1.00  0.21      1SG 932
ATOM   932  CG1 VAL  115    27.643  51.639 -22.481  1.00  0.21      1SG 933
ATOM   933  CG2 VAL  115    26.813  49.317 -21.728  1.00  0.21      1SG 934
ATOM   934  C   VAL  115    29.128  50.336 -24.516  1.00  0.21      1SG 935
ATOM   935  O   VAL  115    30.265  49.873 -24.449  1.00  0.21      1SG 936
ATOM   936  N   TYR  116    28.848  51.473 -25.172  1.00  0.44      1SG 937
ATOM   937  CA  TYR  116    29.880  52.234 -25.804  1.00  0.44      1SG 938
ATOM   938  CB  TYR  116    30.062  51.874 -27.283  1.00  0.44      1SG 939
ATOM   939  CG  TYR  116    28.712  52.007 -27.883  1.00  0.44      1SG 940
ATOM   940  CD1 TYR  116    28.279  53.200 -28.399  1.00  0.44      1SG 941
ATOM   941  CD2 TYR  116    27.864  50.929 -27.902  1.00  0.44      1SG 942
ATOM   942  CE1 TYR  116    27.023  53.311 -28.945  1.00  0.44      1SG 943
ATOM   943  CE2 TYR  116    26.607  51.031 -28.445  1.00  0.44      1SG 944
ATOM   944  CZ  TYR  116    26.183  52.225 -28.971  1.00  0.44      1SG 945
ATOM   945  OH  TYR  116    24.892  52.332 -29.530  1.00  0.44      1SG 946
ATOM   946  C   TYR  116    29.464  53.663 -25.712  1.00  0.44      1SG 947
ATOM   947  O   TYR  116    28.359  53.962 -25.263  1.00  0.44      1SG 948
ATOM   948  N   LYS  117    30.353  54.580 -26.142  1.00  0.45      1SG 949
ATOM   949  CA  LYS  117    30.080  55.988 -26.073  1.00  0.45      1SG 950
ATOM   950  CB  LYS  117    29.019  56.496 -27.064  1.00  0.45      1SG 951
ATOM   951  CG  LYS  117    29.519  56.616 -28.501  1.00  0.45      1SG 952
ATOM   952  CD  LYS  117    28.443  57.089 -29.479  1.00  0.45      1SG 953
ATOM   953  CE  LYS  117    28.988  57.432 -30.865  1.00  0.45      1SG 954
ATOM   954  NZ  LYS  117    29.035  56.215 -31.705  1.00  0.45      1SG 955
ATOM   955  C   LYS  117    29.606  56.330 -24.702  1.00  0.45      1SG 956
ATOM   956  O   LYS  117    28.453  56.713 -24.513  1.00  0.45      1SG 957
ATOM   957  N   VAL  118    30.497  56.195 -23.704  1.00  0.21      1SG 958
ATOM   958  CA  VAL  118    30.122  56.475 -22.352  1.00  0.21      1SG 959
ATOM   959  CB  VAL  118    30.761  55.541 -21.370  1.00  0.21      1SG 960
ATOM   960  CG1 VAL  118    30.419  56.016 -19.953  1.00  0.21      1SG 961
ATOM   961  CG2 VAL  118    30.294  54.109 -21.678  1.00  0.21      1SG 962
ATOM   962  C   VAL  118    30.579  57.856 -22.012  1.00  0.21      1SG 963
ATOM   963  O   VAL  118    31.688  58.262 -22.354  1.00  0.21      1SG 964
ATOM   964  N   ILE  119    29.704  58.631 -21.340  1.00  0.09      1SG 965
ATOM   965  CA  ILE  119    30.083  59.955 -20.951  1.00  0.09      1SG 966
ATOM   966  CB  ILE  119    29.298  61.032 -21.637  1.00  0.09      1SG 967
ATOM   967  CG2 ILE  119    29.724  62.381 -21.035  1.00  0.09      1SG 968
ATOM   968  CG1 ILE  119    29.490  60.945 -23.159  1.00  0.09      1SG 969
ATOM   969  CD1 ILE  119    28.509  61.812 -23.947  1.00  0.09      1SG 970
ATOM   970  C   ILE  119    29.821  60.088 -19.488  1.00  0.09      1SG 971
ATOM   971  O   ILE  119    28.827  59.579 -18.972  1.00  0.09      1SG 972
ATOM   972  N   TYR  120    30.737  60.771 -18.778  1.00  0.09      1SG 973
ATOM   973  CA  TYR  120    30.560  61.006 -17.378  1.00  0.09      1SG 974
ATOM   974  CB  TYR  120    31.820  60.775 -16.525  1.00  0.09      1SG 975
ATOM   975  CG  TYR  120    31.970  59.317 -16.261  1.00  0.09      1SG 976
ATOM   976  CD1 TYR  120    32.530  58.457 -17.178  1.00  0.09      1SG 977
ATOM   977  CD2 TYR  120    31.540  58.817 -15.054  1.00  0.09      1SG 978
ATOM   978  CE1 TYR  120    32.652  57.117 -16.885  1.00  0.09      1SG 979
ATOM   979  CE2 TYR  120    31.659  57.483 -14.755  1.00  0.09      1SG 980
ATOM   980  CZ  TYR  120    32.217  56.631 -15.673  1.00  0.09      1SG 981
ATOM   981  OH  TYR  120    32.335  55.263 -15.355  1.00  0.09      1SG 982
ATOM   982  C   TYR  120    30.176  62.434 -17.220  1.00  0.09      1SG 983
ATOM   983  O   TYR  120    30.750  63.318 -17.855  1.00  0.09      1SG 984
ATOM   984  N   TYR  121    29.163  62.691 -16.372  1.00  0.18      1SG 985
ATOM   985  CA  TYR  121    28.723  64.038 -16.193  1.00  0.18      1SG 986
ATOM   986  CB  TYR  121    27.258  64.245 -16.599  1.00  0.18      1SG 987
ATOM   987  CG  TYR  121    27.150  63.949 -18.056  1.00  0.18      1SG 988
ATOM   988  CD1 TYR  121    27.377  64.931 -18.993  1.00  0.18      1SG 989
ATOM   989  CD2 TYR  121    26.824  62.683 -18.486  1.00  0.18      1SG 990
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ATOM   990  CE1 TYR  121    27.275  64.654 -20.337  1.00  0.18      1SG 991
ATOM   991  CE2 TYR  121    26.720  62.402 -19.827  1.00  0.18      1SG 992
ATOM   992  CZ  TYR  121    26.942  63.389 -20.756  1.00  0.18      1SG 993
ATOM   993  OH  TYR  121    26.834  63.101 -22.133  1.00  0.18      1SG 994
ATOM   994  C   TYR  121    28.829  64.371 -14.740  1.00  0.18      1SG 995
ATOM   995  O   TYR  121    28.541  63.547 -13.874  1.00  0.18      1SG 996
ATOM   996  N   LYS  122    29.284  65.605 -14.456  1.00  0.28      1SG 997
ATOM   997  CA  LYS  122    29.428  66.129 -13.134  1.00  0.28      1SG 998
ATOM   998  CB  LYS  122    30.880  66.537 -12.818  1.00  0.28      1SG 999
ATOM   999  CG  LYS  122    31.137  66.957 -11.369  1.00  0.28     1SG1000
ATOM  1000  CD  LYS  122    32.608  67.287 -11.095  1.00  0.28     1SG1001
ATOM  1001  CE  LYS  122    33.591  66.393 -11.855  1.00  0.28     1SG1002
ATOM  1002  NZ  LYS  122    34.985  66.786 -11.541  1.00  0.28     1SG1003
ATOM  1003  C   LYS  122    28.641  67.394 -13.143  1.00  0.28     1SG1004
ATOM  1004  O   LYS  122    29.023  68.358 -13.804  1.00  0.28     1SG1005
ATOM  1005  N   ASP  123    27.517  67.417 -12.408  1.00  0.20     1SG1006
ATOM  1006  CA  ASP  123    26.698  68.590 -12.349  1.00  0.20     1SG1007
ATOM  1007  CB  ASP  123    27.342  69.736 -11.555  1.00  0.20     1SG1008
ATOM  1008  CG  ASP  123    27.300  69.305 -10.096  1.00  0.20     1SG1009
ATOM  1009  OD1 ASP  123    26.407  68.486  -9.750  1.00  0.20     1SG1010
ATOM  1010  OD2 ASP  123    28.159  69.781  -9.310  1.00  0.20     1SG1011
ATOM  1011  C   ASP  123    26.373  69.035 -13.739  1.00  0.20     1SG1012
ATOM  1012  O   ASP  123    26.275  70.230 -14.018  1.00  0.20     1SG1013
ATOM  1013  N   GLY  124    26.196  68.062 -14.652  1.00  0.17     1SG1014
ATOM  1014  CA  GLY  124    25.784  68.369 -15.990  1.00  0.17     1SG1015
ATOM  1015  C   GLY  124    26.969  68.690 -16.840  1.00  0.17     1SG1016
ATOM  1016  O   GLY  124    26.818  69.053 -18.006  1.00  0.17     1SG1017
ATOM  1017  N   GLU  125    28.189  68.566 -16.293  1.00  0.24     1SG1018
ATOM  1018  CA  GLU  125    29.322  68.878 -17.110  1.00  0.24     1SG1019
ATOM  1019  CB  GLU  125    30.365  69.739 -16.386  1.00  0.24     1SG1020
ATOM  1020  CG  GLU  125    31.381  70.369 -17.331  1.00  0.24     1SG1021
ATOM  1021  CD  GLU  125    32.334  71.210 -16.497  1.00  0.24     1SG1022
ATOM  1022  OE1 GLU  125    32.596  70.818 -15.328  1.00  0.24     1SG1023
ATOM  1023  OE2 GLU  125    32.807  72.256 -17.015  1.00  0.24     1SG1024
ATOM  1024  C   GLU  125    29.961  67.582 -17.482  1.00  0.24     1SG1025
ATOM  1025  O   GLU  125    30.165  66.716 -16.637  1.00  0.24     1SG1026
ATOM  1026  N   ALA  126    30.306  67.396 -18.766  1.00  0.26     1SG1027
ATOM  1027  CA  ALA  126    30.860  66.125 -19.130  1.00  0.26     1SG1028
ATOM  1028  CB  ALA  126    30.790  65.834 -20.639  1.00  0.26     1SG1029
ATOM  1029  C   ALA  126    32.302  66.112 -18.741  1.00  0.26     1SG1030
ATOM  1030  O   ALA  126    33.114  66.845 -19.302  1.00  0.26     1SG1031
ATOM  1031  N   LEU  127    32.645  65.289 -17.731  1.00  0.39     1SG1032
ATOM  1032  CA  LEU  127    34.008  65.183 -17.302  1.00  0.39     1SG1033
ATOM  1033  CB  LEU  127    34.179  64.277 -16.074  1.00  0.39     1SG1034
ATOM  1034  CG  LEU  127    33.482  64.807 -14.812  1.00  0.39     1SG1035
ATOM  1035  CD2 LEU  127    33.881  63.986 -13.576  1.00  0.39     1SG1036
ATOM  1036  CD1 LEU  127    31.960  64.884 -15.010  1.00  0.39     1SG1037
ATOM  1037  C   LEU  127    34.796  64.549 -18.400  1.00  0.39     1SG1038
ATOM  1038  O   LEU  127    35.840  65.061 -18.800  1.00  0.39     1SG1039
ATOM  1039  N   LYS  128    34.304  63.411 -18.933  1.00  0.43     1SG1040
ATOM  1040  CA  LYS  128    35.062  62.772 -19.966  1.00  0.43     1SG1041
ATOM  1041  CB  LYS  128    36.120  61.788 -19.443  1.00  0.43     1SG1042
ATOM  1042  CG  LYS  128    35.512  60.519 -18.844  1.00  0.43     1SG1043
ATOM  1043  CD  LYS  128    36.528  59.394 -18.642  1.00  0.43     1SG1044
ATOM  1044  CE  LYS  128    35.890  58.054 -18.279  1.00  0.43     1SG1045
ATOM  1045  NZ  LYS  128    35.161  57.519 -19.451  1.00  0.43     1SG1046
ATOM  1046  C   LYS  128    34.135  61.974 -20.820  1.00  0.43     1SG1047
ATOM  1047  O   LYS  128    33.048  61.582 -20.398  1.00  0.43     1SG1048
ATOM  1048  N   TYR  129    34.557  61.737 -22.075  1.00  0.26     1SG1049
ATOM  1049  CA  TYR  129    33.811  60.931 -22.993  1.00  0.26     1SG1050
ATOM  1050  CB  TYR  129    33.135  61.748 -24.108  1.00  0.26     1SG1051
ATOM  1051  CG  TYR  129    32.753  60.810 -25.201  1.00  0.26     1SG1052
ATOM  1052  CD1 TYR  129    31.645  59.997 -25.109  1.00  0.26     1SG1053
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ATOM  1053 CD2 TYR  129    33.524  60.758 -26.339  1.00  0.26      1SG1054
ATOM  1054 CE1 TYR  129    31.320  59.142 -26.139  1.00  0.26      1SG1055
ATOM  1055 CE2 TYR  129    33.205  59.908 -27.369  1.00  0.26      1SG1056
ATOM  1056 CZ  TYR  129    32.101  59.099 -27.271  1.00  0.26      1SG1057
ATOM  1057 OH  TYR  129    31.779  58.229 -28.332  1.00  0.26      1SG1058
ATOM  1058 C   TYR  129    34.778  59.999 -23.647  1.00  0.26      1SG1059
ATOM  1059 O   TYR  129    35.824  60.422 -24.135  1.00  0.26      1SG1060
ATOM  1060 N   TRP  130    34.462  58.689 -23.653  1.00  0.16      1SG1061
ATOM  1061 CA  TRP  130    35.333  57.766 -24.319  1.00  0.16      1SG1062
ATOM  1062 CB  TRP  130    36.317  57.060 -23.376  1.00  0.16      1SG1063
ATOM  1063 CG  TRP  130    37.415  56.304 -24.085  1.00  0.16      1SG1064
ATOM  1064 CD2 TRP  130    38.743  56.820 -24.263  1.00  0.16      1SG1065
ATOM  1065 CD1 TRP  130    37.411  55.054 -24.630  1.00  0.16      1SG1066
ATOM  1066 NE1 TRP  130    38.651  54.765 -25.146  1.00  0.16      1SG1067
ATOM  1067 CE2 TRP  130    39.481  55.840 -24.923  1.00  0.16      1SG1068
ATOM  1068 CE3 TRP  130    39.304  58.011 -23.900  1.00  0.16      1SG1069
ATOM  1069 CZ2 TRP  130    40.797  56.035 -25.232  1.00  0.16      1SG1070
ATOM  1070 CZ3 TRP  130    40.631  58.206 -24.218  1.00  0.16      1SG1071
ATOM  1071 CH2 TRP  130    41.364  57.237 -24.872  1.00  0.16      1SG1072
ATOM  1072 C   TRP  130    34.445  56.710 -24.894  1.00  0.16      1SG1073
ATOM  1073 O   TRP  130    33.462  56.312 -24.270  1.00  0.16      1SG1074
ATOM  1074 N   TYR  131    34.742  56.241 -26.120  1.00  0.17      1SG1075
ATOM  1075 CA  TYR  131    33.876  55.242 -26.671  1.00  0.17      1SG1076
ATOM  1076 CB  TYR  131    34.256  54.830 -28.102  1.00  0.17      1SG1077
ATOM  1077 CG  TYR  131    33.897  55.923 -29.045  1.00  0.17      1SG1078
ATOM  1078 CD1 TYR  131    34.677  57.051 -29.158  1.00  0.17      1SG1079
ATOM  1079 CD2 TYR  131    32.777  55.801 -29.833  1.00  0.17      1SG1080
ATOM  1080 CE1 TYR  131    34.335  58.049 -30.040  1.00  0.17      1SG1081
ATOM  1081 CE2 TYR  131    32.430  56.794 -30.716  1.00  0.17      1SG1082
ATOM  1082 CZ  TYR  131    33.211  57.920 -30.821  1.00  0.17      1SG1083
ATOM  1083 OH  TYR  131    32.855  58.940 -31.729  1.00  0.17      1SG1084
ATOM  1084 C   TYR  131    33.952  53.988 -25.858  1.00  0.17      1SG1085
ATOM  1085 O   TYR  131    32.949  53.520 -25.323  1.00  0.17      1SG1086
ATOM  1086 N   GLU  132    35.164  53.409 -25.753  1.00  0.19      1SG1087
ATOM  1087 CA  GLU  132    35.336  52.145 -25.095  1.00  0.19      1SG1088
ATOM  1088 CB  GLU  132    36.595  51.383 -25.550  1.00  0.19      1SG1089
ATOM  1089 CG  GLU  132    37.918  52.085 -25.259  1.00  0.19      1SG1090
ATOM  1090 CD  GLU  132    39.023  51.244 -25.885  1.00  0.19      1SG1091
ATOM  1091 OE1 GLU  132    38.999  49.998 -25.702  1.00  0.19      1SG1092
ATOM  1092 OE2 GLU  132    39.905  51.838 -26.561  1.00  0.19      1SG1093
ATOM  1093 C   GLU  132    35.334  52.226 -23.595  1.00  0.19      1SG1094
ATOM  1094 O   GLU  132    34.804  51.333 -22.938  1.00  0.19      1SG1095
ATOM  1095 N   ASN  133    35.901  53.300 -23.008  1.00  0.18      1SG1096
ATOM  1096 CA  ASN  133    36.132  53.303 -21.586  1.00  0.18      1SG1097
ATOM  1097 CB  ASN  133    37.146  54.366 -21.119  1.00  0.18      1SG1098
ATOM  1098 CG  ASN  133    37.569  54.017 -19.697  1.00  0.18      1SG1099
ATOM  1099 OD1 ASN  133    36.964  53.162 -19.050  1.00  0.18      1SG1100
ATOM  1100 ND2 ASN  133    38.631  54.700 -19.191  1.00  0.18      1SG1101
ATOM  1101 C   ASN  133    34.876  53.504 -20.800  1.00  0.18      1SG1102
ATOM  1102 O   ASN  133    34.256  54.566 -20.828  1.00  0.18      1SG1103
ATOM  1103 N   HIS  134    34.477  52.431 -20.089  1.00  0.16      1SG1104
ATOM  1104 CA  HIS  134    33.342  52.361 -19.214  1.00  0.16      1SG1105
ATOM  1105 ND1 HIS  134    31.445  50.137 -20.751  1.00  0.16      1SG1106
ATOM  1106 CG  HIS  134    32.655  50.103 -20.093  1.00  0.16      1SG1107
ATOM  1107 CB  HIS  134    32.970  50.911 -18.870  1.00  0.16      1SG1108
ATOM  1108 NE2 HIS  134    32.738  48.717 -21.871  1.00  0.16      1SG1109
ATOM  1109 CD2 HIS  134    33.432  49.231 -20.790  1.00  0.16      1SG1110
ATOM  1110 CE1 HIS  134    31.550  49.291 -21.805  1.00  0.16      1SG1111
ATOM  1111 C   HIS  134    33.620  53.068 -17.920  1.00  0.16      1SG1112
ATOM  1112 O   HIS  134    32.711  53.632 -17.314  1.00  0.16      1SG1113
ATOM  1113 N   ASN  135    34.887  53.046 -17.453  1.00  0.14      1SG1114
ATOM  1114 CA  ASN  135    35.191  53.542 -16.136  1.00  0.14      1SG1115
ATOM  1115 CB  ASN  135    36.182  52.646 -15.379  1.00  0.14      1SG1116
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ATOM   1116  CG  ASN  135      35.543  51.277 -15.216  1.00  0.14      1SG1117
ATOM   1117  OD1 ASN  135      34.446  51.144 -14.676  1.00  0.14      1SG1118
ATOM   1118  ND2 ASN  135      36.246  50.224 -15.714  1.00  0.14      1SG1119
ATOM   1119  C   ASN  135      35.824  54.896 -16.197  1.00  0.14      1SG1120
ATOM   1120  O   ASN  135      36.357  55.313 -17.223  1.00  0.14      1SG1121
ATOM   1121  N   ILE  136      35.735  55.630 -15.065  1.00  0.19      1SG1122
ATOM   1122  CA  ILE  136      36.343  56.921 -14.918  1.00  0.19      1SG1123
ATOM   1123  CB  ILE  136      35.366  58.059 -14.963  1.00  0.19      1SG1124
ATOM   1124  CG2 ILE  136      34.435  57.932 -13.746  1.00  0.19      1SG1125
ATOM   1125  CG1 ILE  136      36.110  59.402 -15.040  1.00  0.19      1SG1126
ATOM   1126  CD1 ILE  136      35.202  60.579 -15.391  1.00  0.19      1SG1127
ATOM   1127  C   ILE  136      36.965  56.952 -13.559  1.00  0.19      1SG1128
ATOM   1128  O   ILE  136      36.449  56.350 -12.619  1.00  0.19      1SG1129
ATOM   1129  N   SER  137      38.112  57.642 -13.419  1.00  0.24      1SG1130
ATOM   1130  CA  SER  137      38.739  57.700 -12.133  1.00  0.24      1SG1131
ATOM   1131  CB  SER  137      39.970  56.783 -12.034  1.00  0.24      1SG1132
ATOM   1132  OG  SER  137      40.555  56.873 -10.745  1.00  0.24      1SG1133
ATOM   1133  C   SER  137      39.198  59.104 -11.907  1.00  0.24      1SG1134
ATOM   1134  O   SER  137      39.686  59.763 -12.823  1.00  0.24      1SG1135
ATOM   1135  N   ILE  138      39.035  59.607 -10.670  1.00  0.31      1SG1136
ATOM   1136  CA  ILE  138      39.486  60.933 -10.378  1.00  0.31      1SG1137
ATOM   1137  CB  ILE  138      38.419  61.805  -9.789  1.00  0.31      1SG1138
ATOM   1138  CG2 ILE  138      39.058  63.162  -9.443  1.00  0.31      1SG1139
ATOM   1139  CG1 ILE  138      37.227  61.911 -10.757  1.00  0.31      1SG1140
ATOM   1140  CD1 ILE  138      35.963  62.479 -10.116  1.00  0.31      1SG1141
ATOM   1141  C   ILE  138      40.547  60.785  -9.343  1.00  0.31      1SG1142
ATOM   1142  O   ILE  138      40.328  60.190  -8.290  1.00  0.31      1SG1143
ATOM   1143  N   THR  139      41.743  61.328  -9.610  1.00  0.40      1SG1144
ATOM   1144  CA  THR  139      42.788  61.172  -8.648  1.00  0.40      1SG1145
ATOM   1145  CB  THR  139      44.128  60.908  -9.262  1.00  0.40      1SG1146
ATOM   1146  OG1 THR  139      44.467  61.963 -10.149  1.00  0.40      1SG1147
ATOM   1147  CG2 THR  139      44.075  59.569 -10.013  1.00  0.40      1SG1148
ATOM   1148  C   THR  139      42.873  62.438  -7.870  1.00  0.40      1SG1149
ATOM   1149  O   THR  139      42.513  63.503  -8.369  1.00  0.40      1SG1150
ATOM   1150  N   ASN  140      43.351  62.333  -6.613  1.00  0.29      1SG1151
ATOM   1151  CA  ASN  140      43.471  63.472  -5.750  1.00  0.29      1SG1152
ATOM   1152  CB  ASN  140      44.596  64.437  -6.160  1.00  0.29      1SG1153
ATOM   1153  CG  ASN  140      45.928  63.762  -5.868  1.00  0.29      1SG1154
ATOM   1154  OD1 ASN  140      46.306  62.785  -6.513  1.00  0.29      1SG1155
ATOM   1155  ND2 ASN  140      46.667  64.304  -4.864  1.00  0.29      1SG1156
ATOM   1156  C   ASN  140      42.181  64.224  -5.754  1.00  0.29      1SG1157
ATOM   1157  O   ASN  140      42.115  65.358  -6.226  1.00  0.29      1SG1158
ATOM   1158  N   ALA  141      41.113  63.595  -5.227  1.00  0.26      1SG1159
ATOM   1159  CA  ALA  141      39.821  64.215  -5.216  1.00  0.26      1SG1160
ATOM   1160  CB  ALA  141      38.719  63.333  -4.603  1.00  0.26      1SG1161
ATOM   1161  C   ALA  141      39.898  65.471  -4.413  1.00  0.26      1SG1162
ATOM   1162  O   ALA  141      40.719  65.603  -3.507  1.00  0.26      1SG1163
ATOM   1163  N   THR  142      39.031  66.442  -4.762  1.00  0.35      1SG1164
ATOM   1164  CA  THR  142      38.998  67.708  -4.097  1.00  0.35      1SG1165
ATOM   1165  CB  THR  142      39.528  68.833  -4.935  1.00  0.35      1SG1166
ATOM   1166  OG1 THR  142      39.621  70.022  -4.165  1.00  0.35      1SG1167
ATOM   1167  CG2 THR  142      38.582  69.043  -6.130  1.00  0.35      1SG1168
ATOM   1168  C   THR  142      37.569  68.019  -3.789  1.00  0.35      1SG1169
ATOM   1169  O   THR  142      36.665  67.266  -4.145  1.00  0.35      1SG1170
ATOM   1170  N   VAL  143      37.343  69.150  -3.095  1.00  0.29      1SG1171
ATOM   1171  CA  VAL  143      36.032  69.574  -2.700  1.00  0.29      1SG1172
ATOM   1172  CB  VAL  143      36.059  70.811  -1.856  1.00  0.29      1SG1173
ATOM   1173  CG1 VAL  143      34.611  71.189  -1.502  1.00  0.29      1SG1174
ATOM   1174  CG2 VAL  143      36.953  70.542  -0.631  1.00  0.29      1SG1175
ATOM   1175  C   VAL  143      35.226  69.861  -3.926  1.00  0.29      1SG1176
ATOM   1176  O   VAL  143      34.025  69.598  -3.970  1.00  0.29      1SG1177
ATOM   1177  N   GLU  144      35.880  70.403  -4.967  1.00  0.25      1SG1178
ATOM   1178  CA  GLU  144      35.205  70.752  -6.183  1.00  0.25      1SG1179
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ATOM  1179  CB  GLU  144      36.143  71.376  -7.228  1.00  0.25      1SG1180
ATOM  1180  CG  GLU  144      36.668  72.746  -6.801  1.00  0.25      1SG1181
ATOM  1181  CD  GLU  144      37.666  72.520  -5.676  1.00  0.25      1SG1182
ATOM  1182  OE1 GLU  144      38.780  72.013  -5.971  1.00  0.25      1SG1183
ATOM  1183  OE2 GLU  144      37.326  72.845  -4.507  1.00  0.25      1SG1184
ATOM  1184  C   GLU  144      34.635  69.501  -6.767  1.00  0.25      1SG1185
ATOM  1185  O   GLU  144      33.591  69.521  -7.417  1.00  0.25      1SG1186
ATOM  1186  N   ASP  145      35.312  68.367  -6.525  1.00  0.22      1SG1187
ATOM  1187  CA  ASP  145      34.927  67.107  -7.086  1.00  0.22      1SG1188
ATOM  1188  CB  ASP  145      35.835  65.959  -6.608  1.00  0.22      1SG1189
ATOM  1189  CG  ASP  145      35.542  64.709  -7.427  1.00  0.22      1SG1190
ATOM  1190  OD1 ASP  145      34.357  64.287  -7.484  1.00  0.22      1SG1191
ATOM  1191  OD2 ASP  145      36.511  64.160  -8.016  1.00  0.22      1SG1192
ATOM  1192  C   ASP  145      33.523  66.785  -6.680  1.00  0.22      1SG1193
ATOM  1193  O   ASP  145      32.759  66.255  -7.486  1.00  0.22      1SG1194
ATOM  1194  N   SER  146      33.134  67.103  -5.430  1.00  0.20      1SG1195
ATOM  1195  CA  SER  146      31.813  66.766  -4.974  1.00  0.20      1SG1196
ATOM  1196  CB  SER  146      31.492  67.291  -3.563  1.00  0.20      1SG1197
ATOM  1197  OG  SER  146      31.476  68.711  -3.564  1.00  0.20      1SG1198
ATOM  1198  C   SER  146      30.806  67.344  -5.914  1.00  0.20      1SG1199
ATOM  1199  O   SER  146      31.006  68.414  -6.488  1.00  0.20      1SG1200
ATOM  1200  N   GLY  147      29.691  66.614  -6.114  1.00  0.21      1SG1201
ATOM  1201  CA  GLY  147      28.676  67.077  -7.012  1.00  0.21      1SG1202
ATOM  1202  C   GLY  147      27.818  65.904  -7.348  1.00  0.21      1SG1203
ATOM  1203  O   GLY  147      27.869  64.869  -6.686  1.00  0.21      1SG1204
ATOM  1204  N   THR  148      26.991  66.048  -8.399  1.00  0.17      1SG1205
ATOM  1205  CA  THR  148      26.137  64.966  -8.774  1.00  0.17      1SG1206
ATOM  1206  CB  THR  148      24.735  65.398  -9.070  1.00  0.17      1SG1207
ATOM  1207  OG1 THR  148      24.174  66.037  -7.933  1.00  0.17      1SG1208
ATOM  1208  CG2 THR  148      23.912  64.152  -9.424  1.00  0.17      1SG1209
ATOM  1209  C   THR  148      26.701  64.381 -10.022  1.00  0.17      1SG1210
ATOM  1210  O   THR  148      27.063  65.103 -10.949  1.00  0.17      1SG1211
ATOM  1211  N   TYR  149      26.809  63.040 -10.068  1.00  0.12      1SG1212
ATOM  1212  CA  TYR  149      27.360  62.412 -11.231  1.00  0.12      1SG1213
ATOM  1213  CB  TYR  149      28.585  61.526 -10.948  1.00  0.12      1SG1214
ATOM  1214  CG  TYR  149      29.753  62.381 -10.600  1.00  0.12      1SG1215
ATOM  1215  CD1 TYR  149      29.899  62.900  -9.335  1.00  0.12      1SG1216
ATOM  1216  CD2 TYR  149      30.712  62.647 -11.548  1.00  0.12      1SG1217
ATOM  1217  CE1 TYR  149      30.988  63.680  -9.026  1.00  0.12      1SG1218
ATOM  1218  CE2 TYR  149      31.803  63.425 -11.245  1.00  0.12      1SG1219
ATOM  1219  CZ  TYR  149      31.940  63.945  -9.981  1.00  0.12      1SG1220
ATOM  1220  OH  TYR  149      33.057  64.744  -9.663  1.00  0.12      1SG1221
ATOM  1221  C   TYR  149      26.341  61.495 -11.819  1.00  0.12      1SG1222
ATOM  1222  O   TYR  149      25.587  60.836 -11.105  1.00  0.12      1SG1223
ATOM  1223  N   TYR  150      26.286  61.458 -13.164  1.00  0.12      1SG1224
ATOM  1224  CA  TYR  150      25.436  60.528 -13.842  1.00  0.12      1SG1225
ATOM  1225  CB  TYR  150      24.026  61.056 -14.177  1.00  0.12      1SG1226
ATOM  1226  CG  TYR  150      24.091  62.236 -15.083  1.00  0.12      1SG1227
ATOM  1227  CD1 TYR  150      24.135  62.078 -16.450  1.00  0.12      1SG1228
ATOM  1228  CD2 TYR  150      24.090  63.507 -14.559  1.00  0.12      1SG1229
ATOM  1229  CE1 TYR  150      24.184  63.175 -17.277  1.00  0.12      1SG1230
ATOM  1230  CE2 TYR  150      24.140  64.607 -15.380  1.00  0.12      1SG1231
ATOM  1231  CZ  TYR  150      24.186  64.441 -16.741  1.00  0.12      1SG1232
ATOM  1232  OH  TYR  150      24.236  65.569 -17.586  1.00  0.12      1SG1233
ATOM  1233  C   TYR  150      26.154  60.142 -15.092  1.00  0.12      1SG1234
ATOM  1234  O   TYR  150      27.127  60.786 -15.483  1.00  0.12      1SG1235
ATOM  1235  N   CYS  151      25.714  59.054 -15.747  1.00  0.27      1SG1236
ATOM  1236  CA  CYS  151      26.449  58.615 -16.891  1.00  0.27      1SG1237
ATOM  1237  CB  CYS  151      27.202  57.301 -16.613  1.00  0.27      1SG1238
ATOM  1238  SG  CYS  151      28.205  56.708 -18.002  1.00  0.27      1SG1239
ATOM  1239  C   CYS  151      25.494  58.381 -18.012  1.00  0.27      1SG1240
ATOM  1240  O   CYS  151      24.314  58.113 -17.797  1.00  0.27      1SG1241
ATOM  1241  N   THR  152      25.991  58.533 -19.254  1.00  0.37      1SG1242
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ATOM   1242  CA  THR  152      25.213  58.239 -20.419  1.00  0.37      1SG1243
ATOM   1243  CB  THR  152      24.881  59.420 -21.283  1.00  0.37      1SG1244
ATOM   1244  OG1 THR  152      26.039  60.203 -21.521  1.00  0.37      1SG1245
ATOM   1245  CG2 THR  152      23.764  60.239 -20.631  1.00  0.37      1SG1246
ATOM   1246  C   THR  152      25.993  57.273 -21.235  1.00  0.37      1SG1247
ATOM   1247  O   THR  152      27.222  57.258 -21.206  1.00  0.37      1SG1248
ATOM   1248  N   GLY  153      25.276  56.407 -21.972  1.00  0.21      1SG1249
ATOM   1249  CA  GLY  153      25.949  55.443 -22.782  1.00  0.21      1SG1250
ATOM   1250  C   GLY  153      24.927  54.865 -23.693  1.00  0.21      1SG1251
ATOM   1251  O   GLY  153      23.727  54.978 -23.449  1.00  0.21      1SG1252
ATOM   1252  N   LYS  154      25.384  54.221 -24.781  1.00  0.12      1SG1253
ATOM   1253  CA  LYS  154      24.429  53.670 -25.687  1.00  0.12      1SG1254
ATOM   1254  CB  LYS  154      24.681  54.054 -27.152  1.00  0.12      1SG1255
ATOM   1255  CG  LYS  154      24.557  55.554 -27.414  1.00  0.12      1SG1256
ATOM   1256  CD  LYS  154      25.103  55.976 -28.778  1.00  0.12      1SG1257
ATOM   1257  CE  LYS  154      24.981  57.477 -29.048  1.00  0.12      1SG1258
ATOM   1258  NZ  LYS  154      25.536  57.801 -30.382  1.00  0.12      1SG1259
ATOM   1259  C   LYS  154      24.520  52.188 -25.611  1.00  0.12      1SG1260
ATOM   1260  O   LYS  154      25.575  51.600 -25.848  1.00  0.12      1SG1261
ATOM   1261  N   VAL  155      23.395  51.548 -25.250  1.00  0.20      1SG1262
ATOM   1262  CA  VAL  155      23.342  50.123 -25.248  1.00  0.20      1SG1263
ATOM   1263  CB  VAL  155      22.778  49.535 -23.985  1.00  0.20      1SG1264
ATOM   1264  CG1 VAL  155      23.730  49.874 -22.824  1.00  0.20      1SG1265
ATOM   1265  CG2 VAL  155      21.347  50.064 -23.790  1.00  0.20      1SG1266
ATOM   1266  C   VAL  155      22.424  49.793 -26.367  1.00  0.20      1SG1267
ATOM   1267  O   VAL  155      21.364  50.401 -26.514  1.00  0.20      1SG1268
ATOM   1268  N   TRP  156      22.830  48.847 -27.226  1.00  0.33      1SG1269
ATOM   1269  CA  TRP  156      21.988  48.552 -28.338  1.00  0.33      1SG1270
ATOM   1270  CB  TRP  156      20.541  48.207 -27.940  1.00  0.33      1SG1271
ATOM   1271  CG  TRP  156      20.416  46.980 -27.065  1.00  0.33      1SG1272
ATOM   1272  CD2 TRP  156      20.349  45.628 -27.548  1.00  0.33      1SG1273
ATOM   1273  CD1 TRP  156      20.351  46.905 -25.705  1.00  0.33      1SG1274
ATOM   1274  NE1 TRP  156      20.250  45.593 -25.308  1.00  0.33      1SG1275
ATOM   1275  CE2 TRP  156      20.248  44.795 -26.433  1.00  0.33      1SG1276
ATOM   1276  CE3 TRP  156      20.371  45.122 -28.816  1.00  0.33      1SG1277
ATOM   1277  CZ2 TRP  156      20.169  43.438 -26.570  1.00  0.33      1SG1278
ATOM   1278  CZ3 TRP  156      20.290  43.752 -28.949  1.00  0.33      1SG1279
ATOM   1279  CH2 TRP  156      20.191  42.926 -27.848  1.00  0.33      1SG1280
ATOM   1280  C   TRP  156      21.971  49.807 -29.139  1.00  0.33      1SG1281
ATOM   1281  O   TRP  156      22.916  50.595 -29.101  1.00  0.33      1SG1282
ATOM   1282  N   GLN  157      20.880  50.014 -29.892  1.00  0.49      1SG1283
ATOM   1283  CA  GLN  157      20.742  51.178 -30.711  1.00  0.49      1SG1284
ATOM   1284  CB  GLN  157      19.491  51.114 -31.599  1.00  0.49      1SG1285
ATOM   1285  CG  GLN  157      19.421  49.846 -32.447  1.00  0.49      1SG1286
ATOM   1286  CD  GLN  157      20.718  49.744 -33.227  1.00  0.49      1SG1287
ATOM   1287  OE1 GLN  157      21.154  50.709 -33.851  1.00  0.49      1SG1288
ATOM   1288  NE2 GLN  157      21.358  48.547 -33.180  1.00  0.49      1SG1289
ATOM   1289  C   GLN  157      20.571  52.382 -29.842  1.00  0.49      1SG1290
ATOM   1290  O   GLN  157      21.157  53.433 -30.097  1.00  0.49      1SG1291
ATOM   1291  N   LEU  158      19.769  52.242 -28.769  1.00  0.41      1SG1292
ATOM   1292  CA  LEU  158      19.383  53.372 -27.974  1.00  0.41      1SG1293
ATOM   1293  CB  LEU  158      18.139  53.117 -27.106  1.00  0.41      1SG1294
ATOM   1294  CG  LEU  158      16.869  52.845 -27.933  1.00  0.41      1SG1295
ATOM   1295  CD2 LEU  158      17.020  51.571 -28.782  1.00  0.41      1SG1296
ATOM   1296  CD1 LEU  158      16.466  54.076 -28.762  1.00  0.41      1SG1297
ATOM   1297  C   LEU  158      20.476  53.827 -27.067  1.00  0.41      1SG1298
ATOM   1298  O   LEU  158      21.433  53.107 -26.787  1.00  0.41      1SG1299
ATOM   1299  N   ASP  159      20.333  55.089 -26.610  1.00  0.19      1SG1300
ATOM   1300  CA  ASP  159      21.230  55.721 -25.689  1.00  0.19      1SG1301
ATOM   1301  CB  ASP  159      21.643  57.142 -26.138  1.00  0.19      1SG1302
ATOM   1302  CG  ASP  159      22.711  57.750 -25.227  1.00  0.19      1SG1303
ATOM   1303  OD1 ASP  159      22.869  57.289 -24.067  1.00  0.19      1SG1304
ATOM   1304  OD2 ASP  159      23.385  58.706 -25.697  1.00  0.19      1SG1305
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ATOM   1305  C   ASP  159     20.460  55.850 -24.413  1.00  0.19      1SG1306
ATOM   1306  O   ASP  159     19.280  56.200 -24.424  1.00  0.19      1SG1307
ATOM   1307  N   TYR  160     21.100  55.535 -23.272  1.00  0.11      1SG1308
ATOM   1308  CA  TYR  160     20.407  55.630 -22.022  1.00  0.11      1SG1309
ATOM   1309  CB  TYR  160     20.273  54.289 -21.280  1.00  0.11      1SG1310
ATOM   1310  CG  TYR  160     19.308  53.437 -22.031  1.00  0.11      1SG1311
ATOM   1311  CD1 TYR  160     19.672  52.822 -23.207  1.00  0.11      1SG1312
ATOM   1312  CD2 TYR  160     18.036  53.241 -21.545  1.00  0.11      1SG1313
ATOM   1313  CE1 TYR  160     18.776  52.036 -23.892  1.00  0.11      1SG1314
ATOM   1314  CE2 TYR  160     17.135  52.456 -22.225  1.00  0.11      1SG1315
ATOM   1315  CZ  TYR  160     17.506  51.852 -23.402  1.00  0.11      1SG1316
ATOM   1316  OH  TYR  160     16.587  51.045 -24.106  1.00  0.11      1SG1317
ATOM   1317  C   TYR  160     21.173  56.539 -21.122  1.00  0.11      1SG1318
ATOM   1318  O   TYR  160     22.366  56.770 -21.316  1.00  0.11      1SG1319
ATOM   1319  N   GLU  161     20.472  57.112 -20.124  1.00  0.12      1SG1320
ATOM   1320  CA  GLU  161     21.125  57.944 -19.159  1.00  0.12      1SG1321
ATOM   1321  CB  GLU  161     20.623  59.399 -19.119  1.00  0.12      1SG1322
ATOM   1322  CG  GLU  161     21.484  60.299 -18.228  1.00  0.12      1SG1323
ATOM   1323  CD  GLU  161     21.015  61.741 -18.382  1.00  0.12      1SG1324
ATOM   1324  OE1 GLU  161     19.816  62.015 -18.112  1.00  0.12      1SG1325
ATOM   1325  OE2 GLU  161     21.860  62.592 -18.773  1.00  0.12      1SG1326
ATOM   1326  C   GLU  161     20.870  57.327 -17.824  1.00  0.12      1SG1327
ATOM   1327  O   GLU  161     19.815  56.739 -17.589  1.00  0.12      1SG1328
ATOM   1328  N   SER  162     21.860  57.419 -16.919  1.00  0.11      1SG1329
ATOM   1329  CA  SER  162     21.729  56.834 -15.619  1.00  0.11      1SG1330
ATOM   1330  CB  SER  162     23.065  56.348 -15.030  1.00  0.11      1SG1331
ATOM   1331  OG  SER  162     22.857  55.774 -13.748  1.00  0.11      1SG1332
ATOM   1332  C   SER  162     21.172  57.852 -14.688  1.00  0.11      1SG1333
ATOM   1333  O   SER  162     21.083  59.035 -15.012  1.00  0.11      1SG1334
ATOM   1334  N   GLU  163     20.754  57.391 -13.495  1.00  0.13      1SG1335
ATOM   1335  CA  GLU  163     20.245  58.279 -12.496  1.00  0.13      1SG1336
ATOM   1336  CB  GLU  163     19.399  57.559 -11.433  1.00  0.13      1SG1337
ATOM   1337  CG  GLU  163     20.166  56.464 -10.691  1.00  0.13      1SG1338
ATOM   1338  CD  GLU  163     19.148  55.604  -9.957  1.00  0.13      1SG1339
ATOM   1339  OE1 GLU  163     18.185  55.142 -10.626  1.00  0.13      1SG1340
ATOM   1340  OE2 GLU  163     19.315  55.396  -8.726  1.00  0.13      1SG1341
ATOM   1341  C   GLU  163     21.427  58.899 -11.832  1.00  0.13      1SG1342
ATOM   1342  O   GLU  163     22.501  58.306 -11.741  1.00  0.13      1SG1343
ATOM   1343  N   PRO  164     21.247  60.108 -11.395  1.00  0.13      1SG1344
ATOM   1344  CA  PRO  164     22.340  60.787 -10.760  1.00  0.13      1SG1345
ATOM   1345  CD  PRO  164     20.412  61.023 -12.159  1.00  0.13      1SG1346
ATOM   1346  CB  PRO  164     21.993  62.271 -10.814  1.00  0.13      1SG1347
ATOM   1347  CG  PRO  164     21.098  62.393 -12.057  1.00  0.13      1SG1348
ATOM   1348  C   PRO  164     22.582  60.282  -9.378  1.00  0.13      1SG1349
ATOM   1349  O   PRO  164     21.649  59.793  -8.745  1.00  0.13      1SG1350
ATOM   1350  N   LEU  165     23.838  60.371  -8.902  1.00  0.11      1SG1351
ATOM   1351  CA  LEU  165     24.145  59.970  -7.563  1.00  0.11      1SG1352
ATOM   1352  CB  LEU  165     25.043  58.726  -7.474  1.00  0.11      1SG1353
ATOM   1353  CG  LEU  165     24.393  57.464  -8.071  1.00  0.11      1SG1354
ATOM   1354  CD2 LEU  165     22.957  57.275  -7.560  1.00  0.11      1SG1355
ATOM   1355  CD1 LEU  165     25.276  56.226  -7.849  1.00  0.11      1SG1356
ATOM   1356  C   LEU  165     24.887  61.114  -6.959  1.00  0.11      1SG1357
ATOM   1357  O   LEU  165     25.628  61.811  -7.650  1.00  0.11      1SG1358
ATOM   1358  N   ASN  166     24.696  61.358  -5.650  1.00  0.10      1SG1359
ATOM   1359  CA  ASN  166     25.384  62.468  -5.065  1.00  0.10      1SG1360
ATOM   1360  CB  ASN  166     24.587  63.214  -3.980  1.00  0.10      1SG1361
ATOM   1361  CG  ASN  166     23.476  64.012  -4.647  1.00  0.10      1SG1362
ATOM   1362  OD1 ASN  166     23.226  63.888  -5.845  1.00  0.10      1SG1363
ATOM   1363  ND2 ASN  166     22.794  64.872  -3.846  1.00  0.10      1SG1364
ATOM   1364  C   ASN  166     26.621  61.954  -4.414  1.00  0.10      1SG1365
ATOM   1365  O   ASN  166     26.569  61.093  -3.537  1.00  0.10      1SG1366
ATOM   1366  N   ILE  167     27.780  62.472  -4.857  1.00  0.22      1SG1367
ATOM   1367  CA  ILE  167     29.021  62.087  -4.261  1.00  0.22      1SG1368
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ATOM   1368  CB  ILE   167      30.024  61.566  -5.249  1.00  0.22      1SG1369
ATOM   1369  CG2 ILE   167      31.364  61.380  -4.515  1.00  0.22      1SG1370
ATOM   1370  CG1 ILE   167      29.500  60.285  -5.918  1.00  0.22      1SG1371
ATOM   1371  CD1 ILE   167      30.315  59.855  -7.138  1.00  0.22      1SG1372
ATOM   1372  C   ILE   167      29.588  63.326  -3.662  1.00  0.22      1SG1373
ATOM   1373  O   ILE   167      29.637  64.372  -4.306  1.00  0.22      1SG1374
ATOM   1374  N   THR   168      30.016  63.251  -2.391  1.00  0.48      1SG1375
ATOM   1375  CA  THR   168      30.555  64.431  -1.790  1.00  0.48      1SG1376
ATOM   1376  CB  THR   168      29.789  64.932  -0.603  1.00  0.48      1SG1377
ATOM   1377  OG1 THR   168      29.672  63.906   0.372  1.00  0.48      1SG1378
ATOM   1378  CG2 THR   168      28.411  65.422  -1.054  1.00  0.48      1SG1379
ATOM   1379  C   THR   168      31.917  64.138  -1.288  1.00  0.48      1SG1380
ATOM   1380  O   THR   168      32.229  63.015  -0.894  1.00  0.48      1SG1381
ATOM   1381  N   VAL   169      32.784  65.163  -1.315  1.00  0.55      1SG1382
ATOM   1382  CA  VAL   169      34.061  64.960  -0.722  1.00  0.55      1SG1383
ATOM   1383  CB  VAL   169      35.186  65.749  -1.338  1.00  0.55      1SG1384
ATOM   1384  CG1 VAL   169      35.366  65.272  -2.785  1.00  0.55      1SG1385
ATOM   1385  CG2 VAL   169      34.903  67.254  -1.220  1.00  0.55      1SG1386
ATOM   1386  C   VAL   169      33.871  65.395   0.689  1.00  0.55      1SG1387
ATOM   1387  O   VAL   169      33.425  66.509   0.960  1.00  0.55      1SG1388
ATOM   1388  N   ILE   170      34.178  64.492   1.631  1.00  0.56      1SG1389
ATOM   1389  CA  ILE   170      33.974  64.776   3.017  1.00  0.56      1SG1390
ATOM   1390  CB  ILE   170      34.332  63.609   3.909  1.00  0.56      1SG1391
ATOM   1391  CG2 ILE   170      35.849  63.375   3.822  1.00  0.56      1SG1392
ATOM   1392  CG1 ILE   170      33.816  63.807   5.348  1.00  0.56      1SG1393
ATOM   1393  CD1 ILE   170      34.469  64.961   6.108  1.00  0.56      1SG1394
ATOM   1394  C   ILE   170      34.831  65.949   3.356  1.00  0.56      1SG1395
ATOM   1395  O   ILE   170      34.414  66.833   4.103  1.00  0.56      1SG1396
ATOM   1396  N   LYS   171      36.052  65.993   2.792  1.00  0.52      1SG1397
ATOM   1397  CA  LYS   171      36.958  67.069   3.063  1.00  0.52      1SG1398
ATOM   1398  CB  LYS   171      38.241  66.953   2.216  1.00  0.52      1SG1399
ATOM   1399  CG  LYS   171      39.411  67.838   2.650  1.00  0.52      1SG1400
ATOM   1400  CD  LYS   171      39.151  69.334   2.515  1.00  0.52      1SG1401
ATOM   1401  CE  LYS   171      40.396  70.193   2.745  1.00  0.52      1SG1402
ATOM   1402  NZ  LYS   171      40.985  69.879   4.064  1.00  0.52      1SG1403
ATOM   1403  C   LYS   171      36.237  68.329   2.704  1.00  0.52      1SG1404
ATOM   1404  O   LYS   171      35.772  68.490   1.578  1.00  0.52      1SG1405
ATOM   1405  N   ALA   172      36.106  69.253   3.677  1.00  0.31      1SG1406
ATOM   1406  CA  ALA   172      35.369  70.457   3.427  1.00  0.31      1SG1407
ATOM   1407  CB  ALA   172      34.326  70.764   4.515  1.00  0.31      1SG1408
ATOM   1408  C   ALA   172      36.321  71.645   3.385  1.00  0.31      1SG1409
ATOM   1409  O   ALA   172      35.863  72.767   3.726  1.00  0.31      1SG1410
ATOM   1410  OXT ALA   172      37.507  71.460   3.008  1.00  0.31      1SG1411
END
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TABLE 4

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REMARK   Model of the Fc Epsilon Receptor I 'dimer'; V.C. Epa, 28/08/98.
ATOM      1  N    VAL A   1     35.035  67.423  -3.312  1.00  0.14     N1+
ATOM      2  CA   VAL A   1     36.312  67.082  -2.644  1.00  0.14     C
ATOM      3  C    VAL A   1     36.557  67.737  -1.314  1.00  0.14     C
ATOM      4  O    VAL A   1     37.357  67.213  -0.542  1.00  0.14     O
ATOM      5  CB   VAL A   1     37.484  67.327  -3.566  1.00  0.14     C
ATOM      6  CG1  VAL A   1     37.364  66.351  -4.747  1.00  0.14     C
ATOM      7  CG2  VAL A   1     37.528  68.799  -4.005  1.00  0.14     C
ATOM      8 1H   VAL A   1     34.869  66.862  -4.138  1.00  0.00     H
ATOM      9 2H   VAL A   1     34.241  67.268  -2.703  1.00  0.00     H
ATOM     10 3H   VAL A   1     34.995  68.390  -3.602  1.00  0.00     H
ATOM     11  HA   VAL A   1     36.235  66.006  -2.400  1.00  0.00     H
ATOM     12  HB   VAL A   1     38.411  67.089  -3.011  1.00  0.00     H
ATOM     13 1HG1 VAL A   1     38.229  66.431  -5.429  1.00  0.00     H
ATOM     14 2HG1 VAL A   1     37.326  65.302  -4.406  1.00  0.00     H
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ATOM     15 3HG1 VAL A   1    36.463  66.547  -5.351  1.00  0.00     H
ATOM     16 1HG2 VAL A   1    38.228  68.883  -4.860  1.00  0.00     H
ATOM     17 2HG2 VAL A   1    36.576  69.170  -4.412  1.00  0.00     H
ATOM     18 3HG2 VAL A   1    38.001  69.445  -3.249  1.00  0.00     H
ATOM     19  N   PRO A   2    35.933  68.836  -0.959  1.00  0.15     N
ATOM     20  CA  PRO A   2    36.195  69.325   0.363  1.00  0.15     C
ATOM     21  C   PRO A   2    35.493  68.456   1.350  1.00  0.15     C
ATOM     22  O   PRO A   2    34.546  67.769   0.973  1.00  0.15     O
ATOM     23  CB  PRO A   2    35.731  70.778   0.391  1.00  0.15     C
ATOM     24  CG  PRO A   2    35.897  71.231  -1.067  1.00  0.15     C
ATOM     25  CD  PRO A   2    35.709  69.942  -1.884  1.00  0.15     C
ATOM     26  HA  PRO A   2    37.285  69.336   0.558  1.00  0.00     H
ATOM     27 1HB  PRO A   2    36.304  71.370   1.118  1.00  0.00     H
ATOM     28 2HB  PRO A   2    34.669  70.840   0.677  1.00  0.00     H
ATOM     29 1HG  PRO A   2    36.917  71.626  -1.212  1.00  0.00     H
ATOM     30 2HG  PRO A   2    35.203  72.033  -1.366  1.00  0.00     H
ATOM     31 1HD  PRO A   2    34.667  69.886  -2.239  1.00  0.00     H
ATOM     32 2HD  PRO A   2    36.339  70.042  -2.732  1.00  0.00     H
ATOM     33  N   GLN A   3    35.941  68.473   2.617  1.00  0.19     N
ATOM     34  CA  GLN A   3    35.329  67.651   3.614  1.00  0.19     C
ATOM     35  C   GLN A   3    33.901  68.073   3.703  1.00  0.19     C
ATOM     36  O   GLN A   3    33.553  69.196   3.339  1.00  0.19     O
ATOM     37  CB  GLN A   3    35.986  67.803   4.996  1.00  0.19     C
ATOM     38  CG  GLN A   3    35.493  66.802   6.040  1.00  0.19     C
ATOM     39  CD  GLN A   3    36.327  67.022   7.293  1.00  0.19     C
ATOM     40  OE1 GLN A   3    36.930  68.079   7.467  1.00  0.19     O
ATOM     41  NE2 GLN A   3    36.374  65.997   8.185  1.00  0.19     N
ATOM     42  H   GLN A   3    36.686  69.083   2.909  1.00  0.00     H
ATOM     43  HA  GLN A   3    35.401  66.596   3.289  1.00  0.00     H
ATOM     44 1HB  GLN A   3    35.828  68.836   5.351  1.00  0.00     H
ATOM     45 2HB  GLN A   3    37.076  67.663   4.874  1.00  0.00     H
ATOM     46 1HG  GLN A   3    35.596  65.769   5.669  1.00  0.00     H
ATOM     47 2HG  GLN A   3    34.444  66.987   6.303  1.00  0.00     H
ATOM     48 1HE2 GLN A   3    36.281  65.050   7.857  1.00  0.00     H
ATOM     49 2HE2 GLN A   3    37.049  66.168   8.921  1.00  0.00     H
ATOM     50  N   LYS A   4    33.024  67.165   4.172  1.00  0.23     N
ATOM     51  CA  LYS A   4    31.626  67.476   4.219  1.00  0.23     C
ATOM     52  C   LYS A   4    31.282  67.937   5.594  1.00  0.23     C
ATOM     53  O   LYS A   4    31.667  67.348   6.603  1.00  0.23     O
ATOM     54  CB  LYS A   4    30.722  66.273   3.904  1.00  0.23     C
ATOM     55  CG  LYS A   4    30.861  65.765   2.467  1.00  0.23     C
ATOM     56  CD  LYS A   4    30.229  64.389   2.241  1.00  0.23     C
ATOM     57  CE  LYS A   4    31.032  63.242   2.856  1.00  0.23     C
ATOM     58  NZ  LYS A   4    30.320  61.959   2.659  1.00  0.23    N1+
ATOM     59  H   LYS A   4    33.282  66.218   4.377  1.00  0.00     H
ATOM     60  HA  LYS A   4    31.442  68.204   3.416  1.00  0.00     H
ATOM     61 1HB  LYS A   4    29.665  66.523   4.096  1.00  0.00     H
ATOM     62 2HB  LYS A   4    30.952  65.468   4.623  1.00  0.00     H
ATOM     63 1HG  LYS A   4    31.919  65.737   2.150  1.00  0.00     H
ATOM     64 2HG  LYS A   4    30.360  66.486   1.801  1.00  0.00     H
ATOM     65 1HD  LYS A   4    30.132  64.216   1.154  1.00  0.00     H
ATOM     66 2HD  LYS A   4    29.200  64.402   2.645  1.00  0.00     H
ATOM     67 1HE  LYS A   4    31.168  63.364   3.942  1.00  0.00     H
ATOM     68 2HE  LYS A   4    32.027  63.149   2.391  1.00  0.00     H
ATOM     69 1HZ  LYS A   4    30.819  61.167   3.042  1.00  0.00     H
ATOM     70 2HZ  LYS A   4    29.420  61.981   3.134  1.00  0.00     H
ATOM     71 3HZ  LYS A   4    30.140  61.756   1.685  1.00  0.00     H
ATOM     72  N   PRO A   5    30.550  69.013   5.616  1.00  0.25     N
ATOM     73  CA  PRO A   5    30.108  69.615   6.840  1.00  0.25     C
ATOM     74  C   PRO A   5    29.273  68.587   7.522  1.00  0.25     C
ATOM     75  O   PRO A   5    28.730  67.719   6.839  1.00  0.25     O
ATOM     76  CB  PRO A   5    29.231  70.784   6.411  1.00  0.25     C
ATOM     77  CG  PRO A   5    28.592  70.257   5.112  1.00  0.25     C
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ATOM     78  CD  PRO A   5      29.678  69.350   4.507  1.00  0.25      C
ATOM     79  HA  PRO A   5      30.972  69.906   7.456  1.00  0.00      H
ATOM     80 1HB  PRO A   5      29.730  71.743   6.357  1.00  0.00      H
ATOM     81 2HB  PRO A   5      28.453  70.955   7.178  1.00  0.00      H
ATOM     82 1HG  PRO A   5      28.174  70.972   4.412  1.00  0.00      H
ATOM     83 2HG  PRO A   5      27.910  69.522   5.421  1.00  0.00      H
ATOM     84 1HD  PRO A   5      29.236  68.469   4.044  1.00  0.00      H
ATOM     85 2HD  PRO A   5      30.320  69.821   3.774  1.00  0.00      H
ATOM     86   N  LYS A   6      29.172  68.639   8.861  1.00  0.35      N
ATOM     87  CA  LYS A   6      28.336  67.685   9.520  1.00  0.35      C
ATOM     88   C  LYS A   6      27.209  68.437  10.136  1.00  0.35      C
ATOM     89   O  LYS A   6      27.391  69.533  10.666  1.00  0.35      O
ATOM     90  CB  LYS A   6      29.033  66.897  10.641  1.00  0.35      C
ATOM     91  CG  LYS A   6      30.016  65.843  10.127  1.00  0.35      C
ATOM     92  CD  LYS A   6      31.243  66.430   9.427  1.00  0.35      C
ATOM     93  CE  LYS A   6      32.218  65.365   8.920  1.00  0.35      C
ATOM     94  NZ  LYS A   6      33.370  66.010   8.253  1.00  0.35     N1+
ATOM     95   H  LYS A   6      29.530  69.396   9.434  1.00  0.00      H
ATOM     96  HA  LYS A   6      27.947  66.943   8.805  1.00  0.00      H
ATOM     97 1HB  LYS A   6      28.241  66.394  11.226  1.00  0.00      H
ATOM     98 2HB  LYS A   6      29.641  67.443  11.336  1.00  0.00      H
ATOM     99 1HG  LYS A   6      29.498  65.154   9.434  1.00  0.00      H
ATOM    100 2HG  LYS A   6      30.343  65.221  10.981  1.00  0.00      H
ATOM    101 1HD  LYS A   6      31.763  67.118  10.116  1.00  0.00      H
ATOM    102 2HD  LYS A   6      30.880  67.022   8.600  1.00  0.00      H
ATOM    103 1HE  LYS A   6      31.740  64.699   8.183  1.00  0.00      H
ATOM    104 2HE  LYS A   6      32.610  64.746   9.743  1.00  0.00      H
ATOM    105 1HZ  LYS A   6      33.989  65.352   7.805  1.00  0.00      H
ATOM    106 2HZ  LYS A   6      33.032  66.644   7.532  1.00  0.00      H
ATOM    107 3HZ  LYS A   6      33.939  66.555   8.889  1.00  0.00      H
ATOM    108   N  VAL A   7      25.995  67.867  10.051  1.00  0.35      N
ATOM    109  CA  VAL A   7      24.871  68.517  10.651  1.00  0.35      C
ATOM    110   C  VAL A   7      24.592  67.792  11.922  1.00  0.35      C
ATOM    111   O  VAL A   7      24.524  66.564  11.950  1.00  0.35      O
ATOM    112  CB  VAL A   7      23.627  68.483   9.806  1.00  0.35      C
ATOM    113 CG1  VAL A   7      23.210  67.019   9.585  1.00  0.35      C
ATOM    114 CG2  VAL A   7      22.552  69.335  10.499  1.00  0.35      C
ATOM    115   H  VAL A   7      25.821  66.977   9.615  1.00  0.00      H
ATOM    116  HA  VAL A   7      25.120  69.575  10.831  1.00  0.00      H
ATOM    117  HB  VAL A   7      23.863  68.941   8.827  1.00  0.00      H
ATOM    118 1HG1  VAL A   7      22.471  66.965   8.765  1.00  0.00      H
ATOM    119 2HG1  VAL A   7      24.031  66.350   9.285  1.00  0.00      H
ATOM    120 3HG1  VAL A   7      22.693  66.586  10.456  1.00  0.00      H
ATOM    121 1HG2  VAL A   7      21.678  69.500   9.847  1.00  0.00      H
ATOM    122 2HG2  VAL A   7      22.176  68.844  11.412  1.00  0.00      H
ATOM    123 3HG2  VAL A   7      22.944  70.315  10.791  1.00  0.00      H
ATOM    124   N  SER A   8      24.448  68.548  13.023  1.00  0.17      N
ATOM    125  CA  SER A   8      24.199  67.929  14.287  1.00  0.17      C
ATOM    126   C  SER A   8      22.807  68.274  14.689  1.00  0.17      C
ATOM    127   O  SER A   8      22.347  69.396  14.481  1.00  0.17      O
ATOM    128  CB  SER A   8      25.131  68.420  15.407  1.00  0.17      C
ATOM    129  OG  SER A   8      24.819  67.761  16.625  1.00  0.17      O
ATOM    130   H  SER A   8      24.612  69.550  13.018  1.00  0.00      H
ATOM    131  HA  SER A   8      24.337  66.838  14.216  1.00  0.00      H
ATOM    132 1HB  SER A   8      25.070  69.509  15.536  1.00  0.00      H
ATOM    133 2HB  SER A   8      26.175  68.173  15.162  1.00  0.00      H
ATOM    134  HG  SER A   8      24.240  68.346  17.142  1.00  0.00      H
ATOM    135   N  LEU A   9      22.092  67.295  15.268  1.00  0.11      N
ATOM    136  CA  LEU A   9      20.747  67.539  15.682  1.00  0.11      C
ATOM    137   C  LEU A   9      20.696  67.369  17.164  1.00  0.11      C
ATOM    138   O  LEU A   9      21.139  66.354  17.700  1.00  0.11      O
ATOM    139  CB  LEU A   9      19.749  66.532  15.080  1.00  0.11      C
ATOM    140  CG  LEU A   9      18.287  66.745  15.512  1.00  0.11      C
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ATOM    141  CD1 LEU A   9      17.732  68.081  14.988  1.00  0.11      C
ATOM    142  CD2 LEU A   9      17.418  65.542  15.111  1.00  0.11      C
ATOM    143  H   LEU A   9      22.476  66.399  15.518  1.00  0.00      H
ATOM    144  HA  LEU A   9      20.438  68.549  15.382  1.00  0.00      H
ATOM    145 1HB  LEU A   9      20.066  65.510  15.354  1.00  0.00      H
ATOM    146 2HB  LEU A   9      19.815  66.582  13.978  1.00  0.00      H
ATOM    147  HG  LEU A   9      18.324  66.981  16.546  1.00  0.00      H
ATOM    148 1HD1 LEU A   9      16.651  68.121  15.191  1.00  0.00      H
ATOM    149 2HD1 LEU A   9      18.211  68.929  15.488  1.00  0.00      H
ATOM    150 3HD1 LEU A   9      17.848  68.122  13.899  1.00  0.00      H
ATOM    151 1HD2 LEU A   9      16.368  65.690  15.400  1.00  0.00      H
ATOM    152 2HD2 LEU A   9      17.440  65.417  14.015  1.00  0.00      H
ATOM    153 3HD2 LEU A   9      17.775  64.610  15.558  1.00  0.00      H
ATOM    154  N   ASN A  10      20.176  68.388  17.872  1.00  0.17      N
ATOM    155  CA  ASN A  10      20.046  68.267  19.291  1.00  0.17      C
ATOM    156  C   ASN A  10      18.653  68.686  19.623  1.00  0.17      C
ATOM    157  O   ASN A  10      18.240  69.797  19.295  1.00  0.17      O
ATOM    158  CB  ASN A  10      20.992  69.194  20.070  1.00  0.17      C
ATOM    159  CG  ASN A  10      22.415  68.721  19.819  1.00  0.17      C
ATOM    160  OD1 ASN A  10      23.167  69.361  19.086  1.00  0.17      O
ATOM    161  ND2 ASN A  10      22.798  67.574  20.443  1.00  0.17      N
ATOM    162  H   ASN A  10      19.900  69.270  17.449  1.00  0.00      H
ATOM    163  HA  ASN A  10      20.331  67.257  19.576  1.00  0.00      H
ATOM    164 1HB  ASN A  10      20.746  69.138  21.144  1.00  0.00      H
ATOM    165 2HB  ASN A  10      20.917  70.239  19.756  1.00  0.00      H
ATOM    166 1HD2 ASN A  10      22.193  67.061  21.052  1.00  0.00      H
ATOM    167 2HD2 ASN A  10      23.732  67.251  20.255  1.00  0.00      H
ATOM    168  N   PRO A  11      17.897  67.828  20.245  1.00  0.35      N
ATOM    169  CA  PRO A  11      18.370  66.510  20.559  1.00  0.35      C
ATOM    170  C   PRO A  11      18.404  65.700  19.305  1.00  0.35      C
ATOM    171  O   PRO A  11      17.867  66.139  18.290  1.00  0.35      O
ATOM    172  CB  PRO A  11      17.403  65.958  21.604  1.00  0.35      C
ATOM    173  CG  PRO A  11      16.865  67.215  22.308  1.00  0.35      C
ATOM    174  CD  PRO A  11      16.938  68.307  21.228  1.00  0.35      C
ATOM    175  HA  PRO A  11      19.324  66.603  21.103  1.00  0.00      H
ATOM    176 1HB  PRO A  11      17.862  65.215  22.273  1.00  0.00      H
ATOM    177 2HB  PRO A  11      16.571  65.464  21.082  1.00  0.00      H
ATOM    178 1HG  PRO A  11      17.522  67.473  23.155  1.00  0.00      H
ATOM    179 2HG  PRO A  11      15.851  67.097  22.721  1.00  0.00      H
ATOM    180 1HD  PRO A  11      15.961  68.435  20.733  1.00  0.00      H
ATOM    181 2HD  PRO A  11      17.234  69.288  21.626  1.00  0.00      H
ATOM    182  N   PRO A  12      19.030  64.557  19.364  1.00  0.52      N
ATOM    183  CA  PRO A  12      19.156  63.710  18.209  1.00  0.52      C
ATOM    184  C   PRO A  12      17.853  63.101  17.809  1.00  0.52      C
ATOM    185  O   PRO A  12      17.789  62.501  16.737  1.00  0.52      O
ATOM    186  CB  PRO A  12      20.215  62.672  18.568  1.00  0.52      C
ATOM    187  CG  PRO A  12      21.088  63.386  19.613  1.00  0.52      C
ATOM    188  CD  PRO A  12      20.128  64.371  20.299  1.00  0.52      C
ATOM    189  HA  PRO A  12      19.493  64.305  17.344  1.00  0.00      H
ATOM    190 1HB  PRO A  12      20.766  62.306  17.688  1.00  0.00      H
ATOM    191 2HB  PRO A  12      19.733  61.793  19.029  1.00  0.00      H
ATOM    192 1HG  PRO A  12      21.889  63.941  19.096  1.00  0.00      H
ATOM    193 2HG  PRO A  12      21.583  62.706  20.323  1.00  0.00      H
ATOM    194 1HD  PRO A  12      19.742  63.953  21.242  1.00  0.00      H
ATOM    195 2HD  PRO A  12      20.663  65.299  20.521  1.00  0.00      H
ATOM    196  N   TRP A  13      16.809  63.231  18.646  1.00  0.35      N
ATOM    197  CA  TRP A  13      15.559  62.588  18.359  1.00  0.35      C
ATOM    198  C   TRP A  13      15.107  63.016  16.998  1.00  0.35      C
ATOM    199  O   TRP A  13      14.934  64.204  16.731  1.00  0.35      O
ATOM    200  CB  TRP A  13      14.454  62.959  19.361  1.00  0.35      C
ATOM    201  CG  TRP A  13      14.839  62.683  20.795  1.00  0.35      C
ATOM    202  CD1 TRP A  13      14.961  63.559  21.833  1.00  0.35      C
ATOM    203  CD2 TRP A  13      15.219  61.396  21.302  1.00  0.35      C
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ATOM    204  NE1 TRP A  13      15.382  62.897  22.961  1.00  0.35      N
ATOM    205  CE2 TRP A  13      15.549  61.564  22.647  1.00  0.35      C
ATOM    206  CE3 TRP A  13      15.297  60.175  20.695  1.00  0.35      C
ATOM    207  CZ2 TRP A  13      15.962  60.510  23.408  1.00  0.35      C
ATOM    208  CZ3 TRP A  13      15.707  59.110  21.468  1.00  0.35      C
ATOM    209  CH2 TRP A  13      16.031  59.276  22.798  1.00  0.35      C
ATOM    210  H   TRP A  13      16.881  63.779  19.484  1.00  0.00      H
ATOM    211  HA  TRP A  13      15.723  61.498  18.375  1.00  0.00      H
ATOM    212 1HB  TRP A  13      13.543  62.407  19.077  1.00  0.00      H
ATOM    213 2HB  TRP A  13      14.206  64.025  19.251  1.00  0.00      H
ATOM    214  HD1 TRP A  13      14.739  64.617  21.844  1.00  0.00      H
ATOM    215  HE1 TRP A  13      15.809  63.343  23.741  1.00  0.00      H
ATOM    216  HE3 TRP A  13      15.045  60.031  19.655  1.00  0.00      H
ATOM    217  HZ2 TRP A  13      16.229  60.748  24.420  1.00  0.00      H
ATOM    218  HZ3 TRP A  13      15.795  58.114  21.062  1.00  0.00      H
ATOM    219  HH2 TRP A  13      16.099  58.366  23.378  1.00  0.00      H
ATOM    220  N   ASN A  14      14.933  62.037  16.085  1.00  0.15      N
ATOM    221  CA  ASN A  14      14.506  62.327  14.747  1.00  0.15      C
ATOM    222  C   ASN A  14      13.076  62.758  14.777  1.00  0.15      C
ATOM    223  O   ASN A  14      12.681  63.681  14.064  1.00  0.15      O
ATOM    224  CB  ASN A  14      14.605  61.127  13.785  1.00  0.15      C
ATOM    225  CG  ASN A  14      13.588  60.064  14.181  1.00  0.15      C
ATOM    226  OD1 ASN A  14      13.408  59.751  15.357  1.00  0.15      O
ATOM    227  ND2 ASN A  14      12.882  59.499  13.165  1.00  0.15      N
ATOM    228  H   ASN A  14      15.126  61.062  16.292  1.00  0.00      H
ATOM    229  HA  ASN A  14      15.111  63.154  14.342  1.00  0.00      H
ATOM    230 1HB  ASN A  14      15.612  60.678  13.806  1.00  0.00      H
ATOM    231 2HB  ASN A  14      14.421  61.501  12.763  1.00  0.00      H
ATOM    232 1HD2 ASN A  14      12.990  59.778  12.202  1.00  0.00      H
ATOM    233 2HD2 ASN A  14      12.220  58.777  13.379  1.00  0.00      H
ATOM    234  N   ARG A  15      12.257  62.093  15.615  1.00  0.13      N
ATOM    235  CA  ARG A  15      10.859  62.400  15.668  1.00  0.13      C
ATOM    236  C   ARG A  15      10.645  63.247  16.872  1.00  0.13      C
ATOM    237  O   ARG A  15      11.086  62.908  17.969  1.00  0.13      O
ATOM    238  CB  ARG A  15       9.961  61.164  15.860  1.00  0.13      C
ATOM    239  CG  ARG A  15       9.990  60.171  14.698  1.00  0.13      C
ATOM    240  CD  ARG A  15       9.087  58.956  14.925  1.00  0.13      C
ATOM    241  NE  ARG A  15       9.233  58.061  13.742  1.00  0.13      N1+
ATOM    242  CZ  ARG A  15       8.137  57.682  13.023  1.00  0.13      C
ATOM    243  NH1 ARG A  15       6.892  58.097  13.396  1.00  0.13      N
ATOM    244  NH2 ARG A  15       8.289  56.882  11.926  1.00  0.13      N
ATOM    245  H   ARG A  15      12.592  61.259  16.078  1.00  0.00      H
ATOM    246  HA  ARG A  15      10.563  62.903  14.736  1.00  0.00      H
ATOM    247 1HB  ARG A  15       8.996  61.516  16.214  1.00  0.00      H
ATOM    248 2HB  ARG A  15      10.355  60.612  16.738  1.00  0.00      H
ATOM    249 1HG  ARG A  15      11.007  59.776  14.648  1.00  0.00      H
ATOM    250 2HG  ARG A  15       9.785  60.645  13.726  1.00  0.00      H
ATOM    251 1HD  ARG A  15       8.048  59.228  15.153  1.00  0.00      H
ATOM    252 2HD  ARG A  15       9.459  58.433  15.807  1.00  0.00      H
ATOM    253  HE  ARG A  15       9.923  57.342  13.749  1.00  0.00      H
ATOM    254 1HH1 ARG A  15       6.719  58.668  14.192  1.00  0.00      H
ATOM    255 2HH1 ARG A  15       6.069  57.748  12.956  1.00  0.00      H
ATOM    256 1HH2 ARG A  15       7.535  56.853  11.277  1.00  0.00      H
ATOM    257 2HH2 ARG A  15       9.189  56.912  11.491  1.00  0.00      H
ATOM    258  N   ILE A  16       9.959  64.390  16.699  1.00  0.12      N
ATOM    259  CA  ILE A  16       9.719  65.221  17.838  1.00  0.12      C
ATOM    260  C   ILE A  16       8.300  65.668  17.781  1.00  0.12      C
ATOM    261  O   ILE A  16       7.583  65.394  16.820  1.00  0.12      O
ATOM    262  CB  ILE A  16      10.558  66.467  17.883  1.00  0.12      C
ATOM    263  CG1 ILE A  16      10.236  67.383  16.690  1.00  0.12      C
ATOM    264  CG2 ILE A  16      12.035  66.048  17.972  1.00  0.12      C
ATOM    265  CD1 ILE A  16      10.816  68.789  16.840  1.00  0.12      C
ATOM    266  H   ILE A  16       9.590  64.694  15.804  1.00  0.00      H
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ATOM    267  HA  ILE A  16      9.806  64.637  18.761  1.00  0.00      H
ATOM    268  HB  ILE A  16     10.323  67.011  18.816  1.00  0.00      H
ATOM    269 1HG1 ILE A  16      9.151  67.494  16.527  1.00  0.00      H
ATOM    270 2HG1 ILE A  16     10.633  66.927  15.766  1.00  0.00      H
ATOM    271 1HG2 ILE A  16     12.707  66.907  18.128  1.00  0.00      H
ATOM    272 2HG2 ILE A  16     12.205  65.359  18.814  1.00  0.00      H
ATOM    273 3HG2 ILE A  16     12.376  65.543  17.052  1.00  0.00      H
ATOM    274 1HD1 ILE A  16     10.934  69.273  15.860  1.00  0.00      H
ATOM    275 2HD1 ILE A  16     10.156  69.429  17.440  1.00  0.00      H
ATOM    276 3HD1 ILE A  16     11.792  68.758  17.336  1.00  0.00      H
ATOM    277  N   PHE A  17      7.862  66.360  18.848  1.00  0.17      N
ATOM    278  CA  PHE A  17      6.527  66.870  18.904  1.00  0.17      C
ATOM    279  C   PHE A  17      6.595  68.309  18.543  1.00  0.17      C
ATOM    280  O   PHE A  17      7.645  68.943  18.627  1.00  0.17      O
ATOM    281  CB  PHE A  17      5.886  66.867  20.300  1.00  0.17      C
ATOM    282  CG  PHE A  17      5.562  65.480  20.720  1.00  0.17      C
ATOM    283  CD1 PHE A  17      4.468  64.838  20.192  1.00  0.17      C
ATOM    284  CD2 PHE A  17      6.337  64.840  21.657  1.00  0.17      C
ATOM    285  CE1 PHE A  17      4.154  63.561  20.585  1.00  0.17      C
ATOM    286  CE2 PHE A  17      6.027  63.563  22.057  1.00  0.17      C
ATOM    287  CZ  PHE A  17      4.935  62.927  21.518  1.00  0.17      C
ATOM    288  H   PHE A  17      8.468  66.690  19.582  1.00  0.00      H
ATOM    289  HA  PHE A  17      5.913  66.277  18.229  1.00  0.00      H
ATOM    290 1HB  PHE A  17      4.946  67.418  20.184  1.00  0.00      H
ATOM    291 2HB  PHE A  17      6.495  67.400  21.041  1.00  0.00      H
ATOM    292  HD1 PHE A  17      3.883  65.351  19.440  1.00  0.00      H
ATOM    293  HD2 PHE A  17      7.205  65.348  22.059  1.00  0.00      H
ATOM    294  HE1 PHE A  17      3.235  63.140  20.300  1.00  0.00      H
ATOM    295  HE2 PHE A  17      6.677  63.097  22.778  1.00  0.00      H
ATOM    296  HZ  PHE A  17      4.352  62.236  22.047  1.00  0.00      H
ATOM    297  N   LYS A  18      5.446  68.858  18.119  1.00  0.22      N
ATOM    298  CA  LYS A  18      5.403  70.243  17.781  1.00  0.22      C
ATOM    299  C   LYS A  18      5.558  70.999  19.056  1.00  0.22      C
ATOM    300  O   LYS A  18      5.134  70.546  20.119  1.00  0.22      O
ATOM    301  CB  LYS A  18      4.077  70.663  17.126  1.00  0.22      C
ATOM    302  CG  LYS A  18      2.859  70.405  18.012  1.00  0.22      C
ATOM    303  CD  LYS A  18      1.586  71.086  17.511  1.00  0.22      C
ATOM    304  CE  LYS A  18      0.375  70.870  18.418  1.00  0.22      C
ATOM    305  NZ  LYS A  18     -0.743  71.728  17.967  1.00  0.22     N1+
ATOM    306  H   LYS A  18      4.641  68.278  17.925  1.00  0.00      H
ATOM    307  HA  LYS A  18      6.267  70.377  17.128  1.00  0.00      H
ATOM    308 1HB  LYS A  18      3.964  70.148  16.156  1.00  0.00      H
ATOM    309 2HB  LYS A  18      4.150  71.742  16.902  1.00  0.00      H
ATOM    310 1HG  LYS A  18      3.038  70.808  19.019  1.00  0.00      H
ATOM    311 2HG  LYS A  18      2.689  69.320  18.128  1.00  0.00      H
ATOM    312 1HD  LYS A  18      1.354  70.729  16.492  1.00  0.00      H
ATOM    313 2HD  LYS A  18      1.792  72.168  17.428  1.00  0.00      H
ATOM    314 1HE  LYS A  18      0.596  71.147  19.461  1.00  0.00      H
ATOM    315 2HE  LYS A  18      0.024  69.828  18.411  1.00  0.00      H
ATOM    316 1HZ  LYS A  18     -1.576  71.594  18.528  1.00  0.00      H
ATOM    317 2HZ  LYS A  18     -0.522  72.713  18.013  1.00  0.00      H
ATOM    318 3HZ  LYS A  18     -1.016  71.517  17.014  1.00  0.00      H
ATOM    319  N   GLY A  19      6.207  72.174  18.978  1.00  0.21      N
ATOM    320  CA  GLY A  19      6.383  72.980  20.146  1.00  0.21      C
ATOM    321  C   GLY A  19      7.708  72.652  20.746  1.00  0.21      C
ATOM    322  O   GLY A  19      8.192  73.365  21.623  1.00  0.21      O
ATOM    323  H   GLY A  19      6.494  72.539  18.071  1.00  0.00      H
ATOM    324 1HA  GLY A  19      5.676  72.621  20.917  1.00  0.00      H
ATOM    325 2HA  GLY A  19      6.080  74.028  20.096  1.00  0.00      H
ATOM    326  N   GLU A  20      8.338  71.560  20.281  1.00  0.23      N
ATOM    327  CA  GLU A  20      9.610  71.201  20.830  1.00  0.23      C
ATOM    328  C   GLU A  20     10.642  72.074  20.202  1.00  0.23      C
ATOM    329  O   GLU A  20     10.428  72.635  19.128  1.00  0.23      O
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ATOM	330	CB	GLU	A	20	10.002	69.736	20.574	1.00	0.23	C
ATOM	331	CG	GLU	A	20	9.106	68.753	21.327	1.00	0.23	C
ATOM	332	CD	GLU	A	20	9.228	69.092	22.806	1.00	0.23	C
ATOM	333	OE1	GLU	A	20	10.378	69.332	23.263	1.00	0.23	O
ATOM	334	OE2	GLU	A	20	8.174	69.131	23.495	1.00	0.23	O1-
ATOM	335	H	GLU	A	20	7.903	70.908	19.641	1.00	0.00	H
ATOM	336	HA	GLU	A	20	9.596	71.403	21.915	1.00	0.00	H
ATOM	337	1HB	GLU	A	20	11.054	69.593	20.883	1.00	0.00	H
ATOM	338	2HB	GLU	A	20	9.998	69.547	19.493	1.00	0.00	H
ATOM	339	1HG	GLU	A	20	9.443	67.718	21.165	1.00	0.00	H
ATOM	340	2HG	GLU	A	20	8.053	68.826	21.031	1.00	0.00	H
ATOM	341	N	ASN	A	21	11.794	72.224	20.879	1.00	0.16	N
ATOM	342	CA	ASN	A	21	12.833	73.051	20.346	1.00	0.16	C
ATOM	343	C	ASN	A	21	13.814	72.151	19.677	1.00	0.16	C
ATOM	344	O	ASN	A	21	14.134	71.074	20.179	1.00	0.16	O
ATOM	345	CB	ASN	A	21	13.589	73.859	21.415	1.00	0.16	C
ATOM	346	CG	ASN	A	21	12.613	74.885	21.970	1.00	0.16	C
ATOM	347	OD1	ASN	A	21	11.595	75.174	21.347	1.00	0.16	O
ATOM	348	ND2	ASN	A	21	12.923	75.448	23.168	1.00	0.16	N
ATOM	349	H	ASN	A	21	12.004	71.689	21.705	1.00	0.00	H
ATOM	350	HA	ASN	A	21	12.376	73.724	19.624	1.00	0.00	H
ATOM	351	1HB	ASN	A	21	14.424	74.395	20.932	1.00	0.00	H
ATOM	352	2HB	ASN	A	21	13.999	73.200	22.196	1.00	0.00	H
ATOM	353	1HD2	ASN	A	21	13.738	75.183	23.688	1.00	0.00	H
ATOM	354	2HD2	ASN	A	21	12.260	76.106	23.540	1.00	0.00	H
ATOM	355	N	VAL	A	22	14.289	72.567	18.490	1.00	0.07	N
ATOM	356	CA	VAL	A	22	15.243	71.773	17.780	1.00	0.07	C
ATOM	357	C	VAL	A	22	16.438	72.632	17.559	1.00	0.07	C
ATOM	358	O	VAL	A	22	16.312	73.813	17.236	1.00	0.07	O
ATOM	359	CB	VAL	A	22	14.753	71.331	16.431	1.00	0.07	C
ATOM	360	CG1	VAL	A	22	15.891	70.592	15.710	1.00	0.07	C
ATOM	361	CG2	VAL	A	22	13.481	70.487	16.626	1.00	0.07	C
ATOM	362	H	VAL	A	22	14.067	73.488	18.125	1.00	0.00	H
ATOM	363	HA	VAL	A	22	15.511	70.880	18.368	1.00	0.00	H
ATOM	364	HB	VAL	A	22	14.492	72.177	15.798	1.00	0.00	H
ATOM	365	1HG1	VAL	A	22	15.529	70.095	14.795	1.00	0.00	H
ATOM	366	2HG1	VAL	A	22	16.697	71.275	15.398	1.00	0.00	H
ATOM	367	3HG1	VAL	A	22	16.314	69.825	16.375	1.00	0.00	H
ATOM	368	1HG2	VAL	A	22	13.124	70.080	15.667	1.00	0.00	H
ATOM	369	2HG2	VAL	A	22	13.699	69.636	17.292	1.00	0.00	H
ATOM	370	3HG2	VAL	A	22	12.657	71.073	17.064	1.00	0.00	H
ATOM	371	N	THR	A	23	17.641	72.066	17.762	1.00	0.06	N
ATOM	372	CA	THR	A	23	18.823	72.838	17.530	1.00	0.06	C
ATOM	373	C	THR	A	23	19.615	72.126	16.486	1.00	0.06	C
ATOM	374	O	THR	A	23	19.909	70.939	16.612	1.00	0.06	O
ATOM	375	CB	THR	A	23	19.704	72.975	18.737	1.00	0.06	C
ATOM	376	OG1	THR	A	23	18.992	73.612	19.787	1.00	0.06	O
ATOM	377	CG2	THR	A	23	20.936	73.813	18.353	1.00	0.06	C
ATOM	378	H	THR	A	23	17.775	71.115	18.098	1.00	0.00	H
ATOM	379	HA	THR	A	23	18.556	73.850	17.211	1.00	0.00	H
ATOM	380	HB	THR	A	23	20.031	71.986	19.091	1.00	0.00	H
ATOM	381	HG1	THR	A	23	18.059	73.402	19.624	1.00	0.00	H
ATOM	382	1HG2	THR	A	23	21.551	74.025	19.243	1.00	0.00	H
ATOM	383	2HG2	THR	A	23	21.585	73.297	17.628	1.00	0.00	H
ATOM	384	3HG2	THR	A	23	20.634	74.784	17.926	1.00	0.00	H
ATOM	385	N	LEU	A	24	19.967	72.846	15.407	1.00	0.06	N
ATOM	386	CA	LEU	A	24	20.752	72.253	14.368	1.00	0.06	C
ATOM	387	C	LEU	A	24	22.058	72.966	14.393	1.00	0.06	C
ATOM	388	O	LEU	A	24	22.104	74.195	14.388	1.00	0.06	O
ATOM	389	CB	LEU	A	24	20.163	72.461	12.965	1.00	0.06	C
ATOM	390	CG	LEU	A	24	18.783	71.804	12.774	1.00	0.06	C
ATOM	391	CD1	LEU	A	24	18.246	72.039	11.352	1.00	0.06	C
ATOM	392	CD2	LEU	A	24	18.814	70.318	13.167	1.00	0.06	C

ATOM	393	H	LEU	A	24	19.688	73.815	15.281	1.00	0.00	H
ATOM	394	HA	LEU	A	24	20.869	71.185	14.552	1.00	0.00	H
ATOM	395	1HB	LEU	A	24	20.876	72.019	12.246	1.00	0.00	H
ATOM	396	2HB	LEU	A	24	20.105	73.537	12.729	1.00	0.00	H
ATOM	397	HG	LEU	A	24	18.071	72.302	13.461	1.00	0.00	H
ATOM	398	1HD1	LEU	A	24	17.231	71.624	11.245	1.00	0.00	H
ATOM	399	2HD1	LEU	A	24	18.193	73.115	11.117	1.00	0.00	H
ATOM	400	3HD1	LEU	A	24	18.893	71.560	10.600	1.00	0.00	H
ATOM	401	1HD2	LEU	A	24	17.820	69.888	12.973	1.00	0.00	H
ATOM	402	2HD2	LEU	A	24	19.551	69.756	12.571	1.00	0.00	H
ATOM	403	3HD2	LEU	A	24	19.059	70.199	14.225	1.00	0.00	H
ATOM	404	N	THR	A	25	23.167	72.207	14.441	1.00	0.28	N
ATOM	405	CA	THR	A	25	24.439	72.857	14.453	1.00	0.28	C
ATOM	406	C	THR	A	25	25.210	72.309	13.308	1.00	0.28	C
ATOM	407	O	THR	A	25	25.220	71.106	13.059	1.00	0.28	O
ATOM	408	CB	THR	A	25	25.235	72.590	15.697	1.00	0.28	C
ATOM	409	OG1	THR	A	25	24.523	73.038	16.841	1.00	0.28	O
ATOM	410	CG2	THR	A	25	26.580	73.327	15.588	1.00	0.28	C
ATOM	411	H	THR	A	25	23.130	71.194	14.477	1.00	0.00	H
ATOM	412	HA	THR	A	25	24.322	73.946	14.351	1.00	0.00	H
ATOM	413	HB	THR	A	25	25.413	71.521	15.855	1.00	0.00	H
ATOM	414	HG1	THR	A	25	24.344	73.978	16.692	1.00	0.00	H
ATOM	415	1HG2	THR	A	25	27.114	73.289	16.552	1.00	0.00	H
ATOM	416	2HG2	THR	A	25	27.249	72.875	14.839	1.00	0.00	H
ATOM	417	3HG2	THR	A	25	26.439	74.392	15.338	1.00	0.00	H
ATOM	418	N	CYS	A	26	25.878	73.197	12.565	1.00	0.52	N
ATOM	419	CA	CYS	A	26	26.616	72.723	11.446	1.00	0.52	C
ATOM	420	C	CYS	A	26	28.050	72.983	11.751	1.00	0.52	C
ATOM	421	O	CYS	A	26	28.460	74.132	11.908	1.00	0.52	O
ATOM	422	CB	CYS	A	26	26.230	73.510	10.198	1.00	0.52	C
ATOM	423	SG	CYS	A	26	27.098	72.999	8.709	1.00	0.52	S
ATOM	424	H	CYS	A	26	25.870	74.196	12.727	1.00	0.00	H
ATOM	425	HA	CYS	A	26	26.399	71.671	11.235	1.00	0.00	H
ATOM	426	1HB	CYS	A	26	26.355	74.595	10.346	1.00	0.00	H
ATOM	427	2HB	CYS	A	26	25.173	73.319	10.007	1.00	0.00	H
ATOM	428	N	ASN	A	27	28.853	71.907	11.836	1.00	0.35	N
ATOM	429	CA	ASN	A	27	30.232	72.073	12.176	1.00	0.35	C
ATOM	430	C	ASN	A	27	31.043	71.766	10.964	1.00	0.35	C
ATOM	431	O	ASN	A	27	30.620	71.010	10.092	1.00	0.35	O
ATOM	432	CB	ASN	A	27	30.713	71.117	13.280	1.00	0.35	C
ATOM	433	CG	ASN	A	27	30.594	69.697	12.743	1.00	0.35	C
ATOM	434	OD1	ASN	A	27	29.551	69.298	12.228	1.00	0.35	O
ATOM	435	ND2	ASN	A	27	31.698	68.912	12.855	1.00	0.35	N
ATOM	436	H	ASN	A	27	28.542	70.946	11.685	1.00	0.00	H
ATOM	437	HA	ASN	A	27	30.415	73.099	12.532	1.00	0.00	H
ATOM	438	1HB	ASN	A	27	30.081	71.201	14.180	1.00	0.00	H
ATOM	439	2HB	ASN	A	27	31.746	71.384	13.557	1.00	0.00	H
ATOM	440	1HD2	ASN	A	27	32.530	69.230	13.317	1.00	0.00	H
ATOM	441	2HD2	ASN	A	27	31.597	67.953	12.575	1.00	0.00	H
ATOM	442	N	GLY	A	28	32.237	72.381	10.876	1.00	0.15	N
ATOM	443	CA	GLY	A	28	33.101	72.141	9.762	1.00	0.15	C
ATOM	444	C	GLY	A	28	33.969	73.345	9.623	1.00	0.15	C
ATOM	445	O	GLY	A	28	33.839	74.305	10.382	1.00	0.15	O
ATOM	446	H	GLY	A	28	32.528	73.118	11.502	1.00	0.00	H
ATOM	447	1HA	GLY	A	28	32.514	72.014	8.837	1.00	0.00	H
ATOM	448	2HA	GLY	A	28	33.710	71.234	9.918	1.00	0.00	H
ATOM	449	N	ASN	A	29	34.882	73.329	8.633	1.00	0.16	N
ATOM	450	CA	ASN	A	29	35.730	74.467	8.454	1.00	0.16	C
ATOM	451	C	ASN	A	29	34.852	75.590	8.021	1.00	0.16	C
ATOM	452	O	ASN	A	29	33.866	75.388	7.315	1.00	0.16	O
ATOM	453	CB	ASN	A	29	36.820	74.286	7.382	1.00	0.16	C
ATOM	454	CG	ASN	A	29	37.876	73.331	7.919	1.00	0.16	C
ATOM	455	OD1	ASN	A	29	37.878	72.973	9.096	1.00	0.16	O

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ATOM    456  ND2 ASN A  29      38.816  72.917   7.029  1.00  0.16      N
ATOM    457  H   ASN A  29      35.005  72.548   8.013  1.00  0.00      H
ATOM    458  HA  ASN A  29      36.207  74.723   9.419  1.00  0.00      H
ATOM    459 1HB  ASN A  29      37.363  75.225   7.240  1.00  0.00      H
ATOM    460 2HB  ASN A  29      36.417  73.884   6.449  1.00  0.00      H
ATOM    461 1HD2 ASN A  29      38.833  73.235   6.078  1.00  0.00      H
ATOM    462 2HD2 ASN A  29      39.532  72.304   7.380  1.00  0.00      H
ATOM    463  N   ASN A  30      35.187  76.815   8.463  1.00  0.16      N
ATOM    464  CA  ASN A  30      34.377  77.945   8.127  1.00  0.16      C
ATOM    465  C   ASN A  30      35.268  79.043   7.645  1.00  0.16      C
ATOM    466  O   ASN A  30      36.420  79.153   8.060  1.00  0.16      O
ATOM    467  CB  ASN A  30      33.609  78.491   9.339  1.00  0.16      C
ATOM    468  CG  ASN A  30      32.795  79.688   8.886  1.00  0.16      C
ATOM    469  OD1 ASN A  30      32.210  79.707   7.805  1.00  0.16      O
ATOM    470  ND2 ASN A  30      32.781  80.740   9.746  1.00  0.16      N
ATOM    471  H   ASN A  30      36.004  77.014   9.015  1.00  0.00      H
ATOM    472  HA  ASN A  30      33.660  77.670   7.338  1.00  0.00      H
ATOM    473 1HB  ASN A  30      34.308  78.750  10.151  1.00  0.00      H
ATOM    474 2HB  ASN A  30      32.904  77.733   9.720  1.00  0.00      H
ATOM    475 1HD2 ASN A  30      33.250  80.708  10.630  1.00  0.00      H
ATOM    476 2HD2 ASN A  30      32.054  81.435   9.600  1.00  0.00      H
ATOM    477  N   PHE A  31      34.745  79.879   6.724  1.00  0.12      N
ATOM    478  CA  PHE A  31      35.486  81.003   6.236  1.00  0.12      C
ATOM    479  C   PHE A  31      35.228  82.101   7.212  1.00  0.12      C
ATOM    480  O   PHE A  31      34.243  82.061   7.945  1.00  0.12      O
ATOM    481  CB  PHE A  31      35.024  81.481   4.850  1.00  0.12      C
ATOM    482  CG  PHE A  31      35.870  82.641   4.458  1.00  0.12      C
ATOM    483  CD1 PHE A  31      37.137  82.444   3.958  1.00  0.12      C
ATOM    484  CD2 PHE A  31      35.395  83.926   4.581  1.00  0.12      C
ATOM    485  CE1 PHE A  31      37.919  83.513   3.589  1.00  0.12      C
ATOM    486  CE2 PHE A  31      36.173  84.999   4.215  1.00  0.12      C
ATOM    487  CZ  PHE A  31      37.439  84.793   3.720  1.00  0.12      C
ATOM    488  H   PHE A  31      33.732  79.978   6.684  1.00  0.00      H
ATOM    489  HA  PHE A  31      36.560  80.758   6.226  1.00  0.00      H
ATOM    490 1HB  PHE A  31      33.955  81.746   4.883  1.00  0.00      H
ATOM    491 2HB  PHE A  31      35.127  80.664   4.121  1.00  0.00      H
ATOM    492  HD1 PHE A  31      37.521  81.438   3.830  1.00  0.00      H
ATOM    493  HD2 PHE A  31      34.399  84.066   4.975  1.00  0.00      H
ATOM    494  HE1 PHE A  31      38.916  83.346   3.188  1.00  0.00      H
ATOM    495  HE2 PHE A  31      35.783  86.009   4.316  1.00  0.00      H
ATOM    496  HZ  PHE A  31      38.053  85.642   3.428  1.00  0.00      H
ATOM    497  N   PHE A  32      36.111  83.113   7.268  1.00  0.11      N
ATOM    498  CA  PHE A  32      35.851  84.138   8.229  1.00  0.11      C
ATOM    499  C   PHE A  32      34.911  85.104   7.598  1.00  0.11      C
ATOM    500  O   PHE A  32      35.322  86.086   6.982  1.00  0.11      O
ATOM    501  CB  PHE A  32      37.114  84.895   8.670  1.00  0.11      C
ATOM    502  CG  PHE A  32      37.971  83.875   9.336  1.00  0.11      C
ATOM    503  CD1 PHE A  32      38.800  83.076   8.583  1.00  0.11      C
ATOM    504  CD2 PHE A  32      37.941  83.706  10.700  1.00  0.11      C
ATOM    505  CE1 PHE A  32      39.597  82.127   9.178  1.00  0.11      C
ATOM    506  CE2 PHE A  32      38.735  82.758  11.300  1.00  0.11      C
ATOM    507  CZ  PHE A  32      39.564  81.967  10.542  1.00  0.11      C
ATOM    508  H   PHE A  32      36.835  83.274   6.588  1.00  0.00      H
ATOM    509  HA  PHE A  32      35.409  83.699   9.143  1.00  0.00      H
ATOM    510 1HB  PHE A  32      36.811  85.700   9.358  1.00  0.00      H
ATOM    511 2HB  PHE A  32      37.630  85.368   7.820  1.00  0.00      H
ATOM    512  HD1 PHE A  32      38.864  83.214   7.507  1.00  0.00      H
ATOM    513  HD2 PHE A  32      37.287  84.326  11.307  1.00  0.00      H
ATOM    514  HE1 PHE A  32      40.252  81.506   8.572  1.00  0.00      H
ATOM    515  HE2 PHE A  32      38.705  82.632  12.380  1.00  0.00      H
ATOM    516  HZ  PHE A  32      40.190  81.217  11.019  1.00  0.00      H
ATOM    517  N   GLU A  33      33.600  84.832   7.738  1.00  0.10      N
ATOM    518  CA  GLU A  33      32.616  85.702   7.171  1.00  0.10      C
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ATOM    519  C   GLU A  33    31.455  85.739   8.108  1.00  0.10    C
ATOM    520  O   GLU A  33    31.273  84.837   8.926  1.00  0.10    O
ATOM    521  CB  GLU A  33    32.084  85.228   5.809  1.00  0.10    C
ATOM    522  CG  GLU A  33    31.401  83.860   5.863  1.00  0.10    C
ATOM    523  CD  GLU A  33    30.934  83.526   4.456  1.00  0.10    C
ATOM    524  OE1 GLU A  33    30.393  84.442   3.782  1.00  0.10    O
ATOM    525  OE2 GLU A  33    31.113  82.351   4.035  1.00  0.10    O1-
ATOM    526  H   GLU A  33    33.268  83.963   8.132  1.00  0.00    H
ATOM    527  HA  GLU A  33    33.037  86.717   7.082  1.00  0.00    H
ATOM    528 1HB  GLU A  33    32.872  85.275   5.047  1.00  0.00    H
ATOM    529 2HB  GLU A  33    31.344  85.987   5.494  1.00  0.00    H
ATOM    530 1HG  GLU A  33    30.550  83.937   6.545  1.00  0.00    H
ATOM    531 2HG  GLU A  33    32.063  83.066   6.242  1.00  0.00    H
ATOM    532  N   VAL A  34    30.644  86.808   8.020  1.00  0.09    N
ATOM    533  CA  VAL A  34    29.511  86.925   8.884  1.00  0.09    C
ATOM    534  C   VAL A  34    28.559  85.818   8.570  1.00  0.09    C
ATOM    535  O   VAL A  34    28.077  85.132   9.470  1.00  0.09    O
ATOM    536  CB  VAL A  34    28.792  88.229   8.712  1.00  0.09    C
ATOM    537  CG1 VAL A  34    27.594  88.260   9.674  1.00  0.09    C
ATOM    538  CG2 VAL A  34    29.797  89.369   8.948  1.00  0.09    C
ATOM    539  H   VAL A  34    30.817  87.554   7.369  1.00  0.00    H
ATOM    540  HA  VAL A  34    29.835  86.811   9.932  1.00  0.00    H
ATOM    541  HB  VAL A  34    28.403  88.320   7.681  1.00  0.00    H
ATOM    542 1HG1 VAL A  34    27.078  89.234   9.646  1.00  0.00    H
ATOM    543 2HG1 VAL A  34    26.840  87.496   9.421  1.00  0.00    H
ATOM    544 3HG1 VAL A  34    27.913  88.090  10.716  1.00  0.00    H
ATOM    545 1HG2 VAL A  34    29.295  90.352   8.942  1.00  0.00    H
ATOM    546 2HG2 VAL A  34    30.288  89.266   9.931  1.00  0.00    H
ATOM    547 3HG2 VAL A  34    30.583  89.418   8.177  1.00  0.00    H
ATOM    548  N   SER A  35    28.277  85.587   7.274  1.00  0.11    N
ATOM    549  CA  SER A  35    27.364  84.531   6.942  1.00  0.11    C
ATOM    550  C   SER A  35    28.183  83.307   6.696  1.00  0.11    C
ATOM    551  O   SER A  35    28.493  82.953   5.559  1.00  0.11    O
ATOM    552  CB  SER A  35    26.512  84.826   5.689  1.00  0.11    C
ATOM    553  OG  SER A  35    27.339  85.023   4.552  1.00  0.11    O
ATOM    554  H   SER A  35    28.711  86.062   6.500  1.00  0.00    H
ATOM    555  HA  SER A  35    26.653  84.371   7.771  1.00  0.00    H
ATOM    556 1HB  SER A  35    25.922  85.742   5.827  1.00  0.00    H
ATOM    557 2HB  SER A  35    25.812  83.985   5.528  1.00  0.00    H
ATOM    558  HG  SER A  35    27.975  84.275   4.528  1.00  0.00    H
ATOM    559  N   SER A  36    28.548  82.623   7.794  1.00  0.27    N
ATOM    560  CA  SER A  36    29.398  81.472   7.742  1.00  0.27    C
ATOM    561  C   SER A  36    28.707  80.338   7.057  1.00  0.27    C
ATOM    562  O   SER A  36    29.282  79.676   6.194  1.00  0.27    O
ATOM    563  CB  SER A  36    29.776  80.977   9.147  1.00  0.27    C
ATOM    564  OG  SER A  36    30.410  82.020   9.871  1.00  0.27    O
ATOM    565  H   SER A  36    28.273  82.996   8.696  1.00  0.00    H
ATOM    566  HA  SER A  36    30.311  81.701   7.172  1.00  0.00    H
ATOM    567 1HB  SER A  36    30.374  80.065   9.130  1.00  0.00    H
ATOM    568 2HB  SER A  36    28.855  80.708   9.694  1.00  0.00    H
ATOM    569  HG  SER A  36    30.299  82.846   9.362  1.00  0.00    H
ATOM    570  N   THR A  37    27.431  80.089   7.399  1.00  0.48    N
ATOM    571  CA  THR A  37    26.842  78.902   6.858  1.00  0.48    C
ATOM    572  C   THR A  37    25.567  79.191   6.148  1.00  0.48    C
ATOM    573  O   THR A  37    24.911  80.206   6.377  1.00  0.48    O
ATOM    574  CB  THR A  37    26.522  77.882   7.901  1.00  0.48    C
ATOM    575  OG1 THR A  37    25.965  76.737   7.283  1.00  0.48    O
ATOM    576  CG2 THR A  37    25.515  78.485   8.896  1.00  0.48    C
ATOM    577  H   THR A  37    26.845  80.714   7.922  1.00  0.00    H
ATOM    578  HA  THR A  37    27.513  78.421   6.132  1.00  0.00    H
ATOM    579  HB  THR A  37    27.418  77.638   8.460  1.00  0.00    H
ATOM    580  HG1 THR A  37    25.715  76.122   7.988  1.00  0.00    H
ATOM    581 1HG2 THR A  37    25.307  77.711   9.648  1.00  0.00    H
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ATOM    582 2HG2 THR A  37    25.923  79.370   9.399  1.00  0.00     H
ATOM    583 3HG2 THR A  37    24.557  78.741   8.418  1.00  0.00     H
ATOM    584  N   LYS A  38    25.205  78.268   5.235  1.00  0.41     N
ATOM    585  CA  LYS A  38    23.972  78.360   4.517  1.00  0.41     C
ATOM    586  C   LYS A  38    23.171  77.183   4.969  1.00  0.41     C
ATOM    587  O   LYS A  38    23.687  76.068   5.054  1.00  0.41     O
ATOM    588  CB  LYS A  38    24.131  78.210   2.995  1.00  0.41     C
ATOM    589  CG  LYS A  38    25.186  79.135   2.385  1.00  0.41     C
ATOM    590  CD  LYS A  38    26.617  78.728   2.751  1.00  0.41     C
ATOM    591  CE  LYS A  38    27.700  79.493   1.986  1.00  0.41     C
ATOM    592  NZ  LYS A  38    29.037  78.966   2.348  1.00  0.41     N1+
ATOM    593  H   LYS A  38    25.629  77.348   5.315  1.00  0.00     H
ATOM    594  HA  LYS A  38    23.477  79.318   4.738  1.00  0.00     H
ATOM    595 1HB  LYS A  38    23.141  78.390   2.541  1.00  0.00     H
ATOM    596 2HB  LYS A  38    24.408  77.173   2.761  1.00  0.00     H
ATOM    597 1HG  LYS A  38    24.996  80.183   2.681  1.00  0.00     H
ATOM    598 2HG  LYS A  38    25.082  79.106   1.285  1.00  0.00     H
ATOM    599 1HD  LYS A  38    26.726  77.658   2.649  1.00  0.00     H
ATOM    600 2HD  LYS A  38    26.849  78.975   3.795  1.00  0.00     H
ATOM    601 1HE  LYS A  38    27.684  80.565   2.244  1.00  0.00     H
ATOM    602 2HE  LYS A  38    27.598  79.398   0.893  1.00  0.00     H
ATOM    603 1HZ  LYS A  38    29.782  79.444   1.855  1.00  0.00     H
ATOM    604 2HZ  LYS A  38    29.227  79.092   3.336  1.00  0.00     H
ATOM    605 3HZ  LYS A  38    29.137  77.982   2.132  1.00  0.00     H
ATOM    606  N   TRP A  39    21.884  77.401   5.297  1.00  0.18     N
ATOM    607  CA  TRP A  39    21.073  76.294   5.707  1.00  0.18     C
ATOM    608  C   TRP A  39    20.040  76.079   4.659  1.00  0.18     C
ATOM    609  O   TRP A  39    19.565  77.025   4.034  1.00  0.18     O
ATOM    610  CB  TRP A  39    20.331  76.490   7.044  1.00  0.18     C
ATOM    611  CG  TRP A  39    21.211  76.379   8.268  1.00  0.18     C
ATOM    612  CD1 TRP A  39    21.745  77.350   9.062  1.00  0.18     C
ATOM    613  CD2 TRP A  39    21.658  75.123   8.802  1.00  0.18     C
ATOM    614  NE1 TRP A  39    22.498  76.776  10.062  1.00  0.18     N
ATOM    615  CE2 TRP A  39    22.453  75.405   9.912  1.00  0.18     C
ATOM    616  CE3 TRP A  39    21.425  73.840   8.397  1.00  0.18     C
ATOM    617  CZ2 TRP A  39    23.031  74.401  10.636  1.00  0.18     C
ATOM    618  CZ3 TRP A  39    22.006  72.830   9.130  1.00  0.18     C
ATOM    619  CH2 TRP A  39    22.793  73.105  10.228  1.00  0.18     C
ATOM    620  H   TRP A  39    21.424  78.294   5.236  1.00  0.00     H
ATOM    621  HA  TRP A  39    21.686  75.386   5.806  1.00  0.00     H
ATOM    622 1HB  TRP A  39    19.541  75.720   7.109  1.00  0.00     H
ATOM    623 2HB  TRP A  39    19.802  77.454   7.048  1.00  0.00     H
ATOM    624  HD1 TRP A  39    21.773  78.413   8.875  1.00  0.00     H
ATOM    625  HE1 TRP A  39    23.073  77.294  10.699  1.00  0.00     H
ATOM    626  HE3 TRP A  39    20.762  73.621   7.571  1.00  0.00     H
ATOM    627  HZ2 TRP A  39    23.619  74.619  11.521  1.00  0.00     H
ATOM    628  HZ3 TRP A  39    21.828  71.796   8.843  1.00  0.00     H
ATOM    629  HH2 TRP A  39    23.234  72.302  10.807  1.00  0.00     H
ATOM    630  N   PHE A  40    19.690  74.803   4.416  1.00  0.08     N
ATOM    631  CA  PHE A  40    18.688  74.538   3.434  1.00  0.08     C
ATOM    632  C   PHE A  40    17.664  73.654   4.057  1.00  0.08     C
ATOM    633  O   PHE A  40    17.990  72.739   4.811  1.00  0.08     O
ATOM    634  CB  PHE A  40    19.229  73.816   2.190  1.00  0.08     C
ATOM    635  CG  PHE A  40    20.153  74.766   1.514  1.00  0.08     C
ATOM    636  CD1 PHE A  40    21.465  74.872   1.916  1.00  0.08     C
ATOM    637  CD2 PHE A  40    19.703  75.553   0.478  1.00  0.08     C
ATOM    638  CE1 PHE A  40    22.315  75.752   1.291  1.00  0.08     C
ATOM    639  CE2 PHE A  40    20.551  76.435  -0.150  1.00  0.08     C
ATOM    640  CZ  PHE A  40    21.860  76.534   0.257  1.00  0.08     C
ATOM    641  H   PHE A  40    20.105  74.013   4.892  1.00  0.00     H
ATOM    642  HA  PHE A  40    18.309  75.494   3.136  1.00  0.00     H
ATOM    643 1HB  PHE A  40    18.376  73.555   1.549  1.00  0.00     H
ATOM    644 2HB  PHE A  40    19.730  72.882   2.471  1.00  0.00     H
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ATOM    645  HD1 PHE A  40    21.845  74.243   2.717  1.00  0.00    H
ATOM    646  HD2 PHE A  40    18.681  75.450   0.130  1.00  0.00    H
ATOM    647  HE1 PHE A  40    23.355  75.778   1.589  1.00  0.00    H
ATOM    648  HE2 PHE A  40    20.213  76.986  -1.023  1.00  0.00    H
ATOM    649  HZ  PHE A  40    22.535  77.216  -0.253  1.00  0.00    H
ATOM    650  N   HIS A  41    16.383  73.945   3.777  1.00  0.10    N
ATOM    651  CA  HIS A  41    15.322  73.109   4.242  1.00  0.10    C
ATOM    652  C   HIS A  41    14.620  72.643   3.014  1.00  0.10    C
ATOM    653  O   HIS A  41    14.100  73.447   2.242  1.00  0.10    O
ATOM    654  CB  HIS A  41    14.287  73.836   5.109  1.00  0.10    C
ATOM    655  CG  HIS A  41    13.274  72.893   5.682  1.00  0.10    C
ATOM    656  ND1 HIS A  41    12.236  73.278   6.499  1.00  0.10    N
ATOM    657  CD2 HIS A  41    13.159  71.544   5.541  1.00  0.10    C
ATOM    658  CE1 HIS A  41    11.548  72.151   6.810  1.00  0.10    C
ATOM    659  NE2 HIS A  41    12.071  71.072   6.253  1.00  0.10    N
ATOM    660  H   HIS A  41    16.131  74.767   3.233  1.00  0.00    H
ATOM    661  HA  HIS A  41    15.740  72.280   4.830  1.00  0.00    H
ATOM    662 1HB  HIS A  41    13.796  74.642   4.539  1.00  0.00    H
ATOM    663 2HB  HIS A  41    14.822  74.338   5.936  1.00  0.00    H
ATOM    664  HD2 HIS A  41    13.744  70.826   5.017  1.00  0.00    H
ATOM    665  HE1 HIS A  41    10.614  72.196   7.348  1.00  0.00    H
ATOM    666  HE2 HIS A  41    11.764  70.142   6.452  1.00  0.00    H
ATOM    667  N   ASN A  42    14.593  71.319   2.797  1.00  0.11    N
ATOM    668  CA  ASN A  42    13.967  70.801   1.622  1.00  0.11    C
ATOM    669  C   ASN A  42    14.617  71.443   0.440  1.00  0.11    C
ATOM    670  O   ASN A  42    14.003  71.602  -0.614  1.00  0.11    O
ATOM    671  CB  ASN A  42    12.450  71.059   1.562  1.00  0.11    C
ATOM    672  CG  ASN A  42    11.781  70.123   2.558  1.00  0.11    C
ATOM    673  OD1 ASN A  42    12.427  69.246   3.129  1.00  0.11    O
ATOM    674  ND2 ASN A  42    10.447  70.298   2.758  1.00  0.11    N
ATOM    675  H   ASN A  42    14.894  70.665   3.517  1.00  0.00    H
ATOM    676  HA  ASN A  42    14.186  69.722   1.529  1.00  0.00    H
ATOM    677 1HB  ASN A  42    12.064  70.773   0.568  1.00  0.00    H
ATOM    678 2HB  ASN A  42    12.165  72.105   1.744  1.00  0.00    H
ATOM    679 1HD2 ASN A  42     9.946  71.057   2.334  1.00  0.00    H
ATOM    680 2HD2 ASN A  42    10.000  69.733   3.462  1.00  0.00    H
ATOM    681  N   GLY A  43    15.899  71.821   0.589  1.00  0.08    N
ATOM    682  CA  GLY A  43    16.624  72.378  -0.515  1.00  0.08    C
ATOM    683  C   GLY A  43    16.364  73.848  -0.611  1.00  0.08    C
ATOM    684  O   GLY A  43    16.830  74.497  -1.546  1.00  0.08    O
ATOM    685  H   GLY A  43    16.250  71.979   1.521  1.00  0.00    H
ATOM    686 1HA  GLY A  43    16.323  71.897  -1.458  1.00  0.00    H
ATOM    687 2HA  GLY A  43    17.706  72.230  -0.374  1.00  0.00    H
ATOM    688  N   SER A  44    15.617  74.428   0.346  1.00  0.15    N
ATOM    689  CA  SER A  44    15.375  75.838   0.255  1.00  0.15    C
ATOM    690  C   SER A  44    16.345  76.510   1.167  1.00  0.15    C
ATOM    691  O   SER A  44    16.513  76.111   2.317  1.00  0.15    O
ATOM    692  CB  SER A  44    13.964  76.262   0.694  1.00  0.15    C
ATOM    693  OG  SER A  44    13.788  76.006   2.080  1.00  0.15    O
ATOM    694  H   SER A  44    15.032  73.916   0.998  1.00  0.00    H
ATOM    695  HA  SER A  44    15.484  76.176  -0.789  1.00  0.00    H
ATOM    696 1HB  SER A  44    13.195  75.690   0.158  1.00  0.00    H
ATOM    697 2HB  SER A  44    13.813  77.334   0.471  1.00  0.00    H
ATOM    698  HG  SER A  44    14.352  76.634   2.559  1.00  0.00    H
ATOM    699  N   LEU A  45    17.025  77.556   0.666  1.00  0.35    N
ATOM    700  CA  LEU A  45    17.997  78.240   1.465  1.00  0.35    C
ATOM    701  C   LEU A  45    17.255  79.014   2.504  1.00  0.35    C
ATOM    702  O   LEU A  45    16.195  79.578   2.241  1.00  0.35    O
ATOM    703  CB  LEU A  45    18.886  79.190   0.622  1.00  0.35    C
ATOM    704  CG  LEU A  45    20.000  79.986   1.345  1.00  0.35    C
ATOM    705  CD1 LEU A  45    20.847  80.767   0.328  1.00  0.35    C
ATOM    706  CD2 LEU A  45    19.465  80.938   2.433  1.00  0.35    C
ATOM    707  H   LEU A  45    16.859  77.916  -0.258  1.00  0.00    H
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ATOM    708  HA  LEU A  45    18.652  77.484   1.916  1.00  0.00    H
ATOM    709 1HB  LEU A  45    18.219  79.931   0.143  1.00  0.00    H
ATOM    710 2HB  LEU A  45    19.327  78.630  -0.212  1.00  0.00    H
ATOM    711  HG  LEU A  45    20.665  79.253   1.840  1.00  0.00    H
ATOM    712 1HD1 LEU A  45    21.676  81.302   0.821  1.00  0.00    H
ATOM    713 2HD1 LEU A  45    21.291  80.099  -0.428  1.00  0.00    H
ATOM    714 3HD1 LEU A  45    20.234  81.514  -0.203  1.00  0.00    H
ATOM    715 1HD2 LEU A  45    19.719  81.980   2.158  1.00  0.00    H
ATOM    716 2HD2 LEU A  45    18.389  81.005   2.576  1.00  0.00    H
ATOM    717 3HD2 LEU A  45    20.074  80.759   3.311  1.00  0.00    H
ATOM    718  N   SER A  46    17.808  79.040   3.734  1.00  0.48    N
ATOM    719  CA  SER A  46    17.218  79.785   4.809  1.00  0.48    C
ATOM    720  C   SER A  46    18.124  80.941   5.078  1.00  0.48    C
ATOM    721  O   SER A  46    19.320  80.771   5.301  1.00  0.48    O
ATOM    722  CB  SER A  46    17.159  79.037   6.154  1.00  0.48    C
ATOM    723  OG  SER A  46    16.268  77.937   6.093  1.00  0.48    O
ATOM    724  H   SER A  46    18.589  78.436   3.972  1.00  0.00    H
ATOM    725  HA  SER A  46    16.185  80.070   4.554  1.00  0.00    H
ATOM    726 1HB  SER A  46    16.623  79.786   6.740  1.00  0.00    H
ATOM    727 2HB  SER A  46    18.133  78.779   6.591  1.00  0.00    H
ATOM    728  HG  SER A  46    16.014  77.771   7.023  1.00  0.00    H
ATOM    729  N   GLU A  47    17.561  82.158   5.029  1.00  0.44    N
ATOM    730  CA  GLU A  47    18.248  83.383   5.316  1.00  0.44    C
ATOM    731  C   GLU A  47    18.453  83.486   6.797  1.00  0.44    C
ATOM    732  O   GLU A  47    19.343  84.188   7.271  1.00  0.44    O
ATOM    733  CB  GLU A  47    17.440  84.622   4.906  1.00  0.44    C
ATOM    734  CG  GLU A  47    16.115  84.730   5.662  1.00  0.44    C
ATOM    735  CD  GLU A  47    15.396  85.988   5.203  1.00  0.44    C
ATOM    736  OE1 GLU A  47    15.858  86.606   4.206  1.00  0.44    O
ATOM    737  OE2 GLU A  47    14.373  86.349   5.844  1.00  0.44   O1-
ATOM    738  H   GLU A  47    16.607  82.284   4.724  1.00  0.00    H
ATOM    739  HA  GLU A  47    19.239  83.381   4.833  1.00  0.00    H
ATOM    740 1HB  GLU A  47    17.273  84.585   3.815  1.00  0.00    H
ATOM    741 2HB  GLU A  47    18.068  85.508   5.110  1.00  0.00    H
ATOM    742 1HG  GLU A  47    16.248  84.814   6.752  1.00  0.00    H
ATOM    743 2HG  GLU A  47    15.450  83.868   5.495  1.00  0.00    H
ATOM    744  N   GLU A  48    17.608  82.766   7.551  1.00  0.45    N
ATOM    745  CA  GLU A  48    17.419  82.881   8.969  1.00  0.45    C
ATOM    746  C   GLU A  48    18.648  82.740   9.823  1.00  0.45    C
ATOM    747  O   GLU A  48    18.857  83.579  10.697  1.00  0.45    O
ATOM    748  CB  GLU A  48    16.414  81.833   9.468  1.00  0.45    C
ATOM    749  CG  GLU A  48    16.862  80.403   9.154  1.00  0.45    C
ATOM    750  CD  GLU A  48    15.749  79.447   9.560  1.00  0.45    C
ATOM    751  OE1 GLU A  48    14.717  79.928  10.099  1.00  0.45    O
ATOM    752  OE2 GLU A  48    15.917  78.219   9.333  1.00  0.45   O1-
ATOM    753  H   GLU A  48    16.949  82.175   7.075  1.00  0.00    H
ATOM    754  HA  GLU A  48    17.016  83.885   9.188  1.00  0.00    H
ATOM    755 1HB  GLU A  48    15.437  82.052   8.999  1.00  0.00    H
ATOM    756 2HB  GLU A  48    16.290  81.972  10.557  1.00  0.00    H
ATOM    757 1HG  GLU A  48    17.655  80.150   9.869  1.00  0.00    H
ATOM    758 2HG  GLU A  48    17.413  80.258   8.238  1.00  0.00    H
ATOM    759  N   THR A  49    19.523  81.735   9.626  1.00  0.55    N
ATOM    760  CA  THR A  49    20.475  81.591  10.695  1.00  0.55    C
ATOM    761  C   THR A  49    21.869  81.303  10.218  1.00  0.55    C
ATOM    762  O   THR A  49    22.124  81.078   9.036  1.00  0.55    O
ATOM    763  CB  THR A  49    20.062  80.467  11.603  1.00  0.55    C
ATOM    764  OG1 THR A  49    20.882  80.388  12.757  1.00  0.55    O
ATOM    765  CG2 THR A  49    20.139  79.164  10.795  1.00  0.55    C
ATOM    766  H   THR A  49    19.450  81.037   8.909  1.00  0.00    H
ATOM    767  HA  THR A  49    20.596  82.511  11.285  1.00  0.00    H
ATOM    768  HB  THR A  49    19.051  80.768  11.920  1.00  0.00    H
ATOM    769  HG1 THR A  49    20.723  79.538  13.198  1.00  0.00    H
ATOM    770 1HG2 THR A  49    19.326  78.450  10.800  1.00  0.00    H
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ATOM    771 2HG2 THR A  49    20.226  79.357   9.715  1.00  0.00    H
ATOM    772 3HG2 THR A  49    21.061  78.660  11.101  1.00  0.00    H
ATOM    773  N   ASN A  50    22.808  81.331  11.191  1.00  0.44    N
ATOM    774  CA  ASN A  50    24.216  81.101  11.036  1.00  0.44    C
ATOM    775  C   ASN A  50    24.526  79.690  11.431  1.00  0.44    C
ATOM    776  O   ASN A  50    23.788  78.756  11.124  1.00  0.44    O
ATOM    777  CB  ASN A  50    25.082  82.012  11.923  1.00  0.44    C
ATOM    778  CG  ASN A  50    24.987  83.430  11.383  1.00  0.44    C
ATOM    779  OD1 ASN A  50    25.306  83.682  10.223  1.00  0.44    O
ATOM    780  ND2 ASN A  50    24.536  84.383  12.243  1.00  0.44    N
ATOM    781  H   ASN A  50    22.433  81.246  12.132  1.00  0.00    H
ATOM    782  HA  ASN A  50    24.490  81.217   9.974  1.00  0.00    H
ATOM    783 1HB  ASN A  50    26.160  81.813  11.801  1.00  0.00    H
ATOM    784 2HB  ASN A  50    24.811  81.939  12.988  1.00  0.00    H
ATOM    785 1HD2 ASN A  50    24.226  84.171  13.172  1.00  0.00    H
ATOM    786 2HD2 ASN A  50    24.430  85.308  11.862  1.00  0.00    H
ATOM    787  N   SER A  51    25.661  79.521  12.140  1.00  0.25    N
ATOM    788  CA  SER A  51    26.182  78.233  12.494  1.00  0.25    C
ATOM    789  C   SER A  51    25.171  77.448  13.267  1.00  0.25    C
ATOM    790  O   SER A  51    24.943  76.276  12.969  1.00  0.25    O
ATOM    791  CB  SER A  51    27.446  78.324  13.365  1.00  0.25    C
ATOM    792  OG  SER A  51    27.126  78.894  14.625  1.00  0.25    O
ATOM    793  H   SER A  51    26.206  80.301  12.462  1.00  0.00    H
ATOM    794  HA  SER A  51    26.417  77.665  11.581  1.00  0.00    H
ATOM    795 1HB  SER A  51    28.230  78.908  12.849  1.00  0.00    H
ATOM    796 2HB  SER A  51    27.829  77.295  13.499  1.00  0.00    H
ATOM    797  HG  SER A  51    27.896  78.769  15.200  1.00  0.00    H
ATOM    798  N   SER A  52    24.525  78.056  14.278  1.00  0.14    N
ATOM    799  CA  SER A  52    23.591  77.273  15.036  1.00  0.14    C
ATOM    800  C   SER A  52    22.214  77.760  14.740  1.00  0.14    C
ATOM    801  O   SER A  52    21.944  78.960  14.768  1.00  0.14    O
ATOM    802  CB  SER A  52    23.794  77.380  16.557  1.00  0.14    C
ATOM    803  OG  SER A  52    25.058  76.846  16.919  1.00  0.14    O
ATOM    804  H   SER A  52    24.837  78.941  14.640  1.00  0.00    H
ATOM    805  HA  SER A  52    23.703  76.203  14.814  1.00  0.00    H
ATOM    806 1HB  SER A  52    22.983  76.804  17.042  1.00  0.00    H
ATOM    807 2HB  SER A  52    23.706  78.429  16.892  1.00  0.00    H
ATOM    808  HG  SER A  52    25.161  76.977  17.872  1.00  0.00    H
ATOM    809  N   LEU A  53    21.296  76.826  14.422  1.00  0.09    N
ATOM    810  CA  LEU A  53    19.948  77.236  14.179  1.00  0.09    C
ATOM    811  C   LEU A  53    19.099  76.586  15.218  1.00  0.09    C
ATOM    812  O   LEU A  53    19.090  75.363  15.358  1.00  0.09    O
ATOM    813  CB  LEU A  53    19.400  76.833  12.798  1.00  0.09    C
ATOM    814  CG  LEU A  53    17.946  77.287  12.554  1.00  0.09    C
ATOM    815  CD1 LEU A  53    17.822  78.817  12.594  1.00  0.09    C
ATOM    816  CD2 LEU A  53    17.391  76.694  11.251  1.00  0.09    C
ATOM    817  H   LEU A  53    21.500  75.830  14.376  1.00  0.00    H
ATOM    818  HA  LEU A  53    19.874  78.321  14.291  1.00  0.00    H
ATOM    819 1HB  LEU A  53    19.407  75.728  12.754  1.00  0.00    H
ATOM    820 2HB  LEU A  53    20.106  77.112  12.014  1.00  0.00    H
ATOM    821  HG  LEU A  53    17.336  76.870  13.377  1.00  0.00    H
ATOM    822 1HD1 LEU A  53    16.830  79.056  13.024  1.00  0.00    H
ATOM    823 2HD1 LEU A  53    18.521  79.331  13.257  1.00  0.00    H
ATOM    824 3HD1 LEU A  53    17.754  79.272  11.609  1.00  0.00    H
ATOM    825 1HD2 LEU A  53    16.302  76.848  11.201  1.00  0.00    H
ATOM    826 2HD2 LEU A  53    17.862  77.101  10.346  1.00  0.00    H
ATOM    827 3HD2 LEU A  53    17.544  75.602  11.226  1.00  0.00    H
ATOM    828  N   ASN A  54    18.372  77.405  15.998  1.00  0.09    N
ATOM    829  CA  ASN A  54    17.529  76.854  17.013  1.00  0.09    C
ATOM    830  C   ASN A  54    16.131  77.235  16.666  1.00  0.09    C
ATOM    831  O   ASN A  54    15.849  78.395  16.374  1.00  0.09    O
ATOM    832  CB  ASN A  54    17.800  77.421  18.416  1.00  0.09    C
ATOM    833  CG  ASN A  54    16.982  76.612  19.411  1.00  0.09    C
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ATOM    834  OD1 ASN A  54      16.409  75.580  19.069  1.00  0.09      O
ATOM    835  ND2 ASN A  54      16.916  77.099  20.679  1.00  0.09      N
ATOM    836  H   ASN A  54      18.265  78.392  15.833  1.00  0.00      H
ATOM    837  HA  ASN A  54      17.682  75.775  17.052  1.00  0.00      H
ATOM    838 1HB  ASN A  54      17.555  78.493  18.473  1.00  0.00      H
ATOM    839 2HB  ASN A  54      18.867  77.298  18.670  1.00  0.00      H
ATOM    840 1HD2 ASN A  54      17.381  77.945  20.949  1.00  0.00      H
ATOM    841 2HD2 ASN A  54      16.363  76.577  21.336  1.00  0.00      H
ATOM    842  N   ILE A  55      15.213  76.255  16.677  1.00  0.08      N
ATOM    843  CA  ILE A  55      13.854  76.575  16.377  1.00  0.08      C
ATOM    844  C   ILE A  55      13.041  76.131  17.542  1.00  0.08      C
ATOM    845  O   ILE A  55      13.338  75.121  18.178  1.00  0.08      O
ATOM    846  CB  ILE A  55      13.310  75.856  15.178  1.00  0.08      C
ATOM    847  CG1 ILE A  55      13.293  74.339  15.424  1.00  0.08      C
ATOM    848  CG2 ILE A  55      14.135  76.277  13.950  1.00  0.08      C
ATOM    849  CD1 ILE A  55      12.481  73.570  14.384  1.00  0.08      C
ATOM    850  H   ILE A  55      15.434  75.327  17.030  1.00  0.00      H
ATOM    851  HA  ILE A  55      13.731  77.661  16.238  1.00  0.00      H
ATOM    852  HB  ILE A  55      12.270  76.207  15.038  1.00  0.00      H
ATOM    853 1HG1 ILE A  55      12.813  74.025  16.355  1.00  0.00      H
ATOM    854 2HG1 ILE A  55      14.341  74.014  15.420  1.00  0.00      H
ATOM    855 1HG2 ILE A  55      13.703  75.895  13.010  1.00  0.00      H
ATOM    856 2HG2 ILE A  55      14.181  77.375  13.855  1.00  0.00      H
ATOM    857 3HG2 ILE A  55      15.169  75.900  14.004  1.00  0.00      H
ATOM    858 1HD1 ILE A  55      12.528  72.482  14.547  1.00  0.00      H
ATOM    859 2HD1 ILE A  55      11.433  73.877  14.474  1.00  0.00      H
ATOM    860 3HD1 ILE A  55      12.805  73.762  13.349  1.00  0.00      H
ATOM    861  N   VAL A  56      11.988  76.902  17.855  1.00  0.10      N
ATOM    862  CA  VAL A  56      11.128  76.559  18.942  1.00  0.10      C
ATOM    863  C   VAL A  56       9.803  76.269  18.333  1.00  0.10      C
ATOM    864  O   VAL A  56       9.483  76.775  17.259  1.00  0.10      O
ATOM    865  CB  VAL A  56      10.938  77.689  19.914  1.00  0.10      C
ATOM    866  CG1 VAL A  56       9.887  77.287  20.962  1.00  0.10      C
ATOM    867  CG2 VAL A  56      12.308  78.053  20.510  1.00  0.10      C
ATOM    868  H   VAL A  56      11.643  77.623  17.244  1.00  0.00      H
ATOM    869  HA  VAL A  56      11.486  75.619  19.322  1.00  0.00      H
ATOM    870  HB  VAL A  56      10.550  78.573  19.374  1.00  0.00      H
ATOM    871 1HG1 VAL A  56      10.078  77.797  21.922  1.00  0.00      H
ATOM    872 2HG1 VAL A  56       8.900  77.663  20.639  1.00  0.00      H
ATOM    873 3HG1 VAL A  56       9.712  76.240  21.212  1.00  0.00      H
ATOM    874 1HG2 VAL A  56      12.215  78.754  21.355  1.00  0.00      H
ATOM    875 2HG2 VAL A  56      12.874  77.183  20.866  1.00  0.00      H
ATOM    876 3HG2 VAL A  56      12.944  78.553  19.759  1.00  0.00      H
ATOM    877  N   ASN A  57       9.004  75.433  19.021  1.00  0.11      N
ATOM    878  CA  ASN A  57       7.708  75.064  18.547  1.00  0.11      C
ATOM    879  C   ASN A  57       7.819  74.611  17.129  1.00  0.11      C
ATOM    880  O   ASN A  57       7.234  75.209  16.227  1.00  0.11      O
ATOM    881  CB  ASN A  57       6.662  76.188  18.634  1.00  0.11      C
ATOM    882  CG  ASN A  57       5.291  75.545  18.470  1.00  0.11      C
ATOM    883  OD1 ASN A  57       5.099  74.663  17.634  1.00  0.11      O
ATOM    884  ND2 ASN A  57       4.310  75.986  19.303  1.00  0.11      N
ATOM    885  H   ASN A  57       9.360  74.950  19.839  1.00  0.00      H
ATOM    886  HA  ASN A  57       7.598  74.194  19.108  1.00  0.00      H
ATOM    887 1HB  ASN A  57       6.807  76.960  17.861  1.00  0.00      H
ATOM    888 2HB  ASN A  57       6.743  76.690  19.613  1.00  0.00      H
ATOM    889 1HD2 ASN A  57       4.556  76.658  20.013  1.00  0.00      H
ATOM    890 2HD2 ASN A  57       3.546  75.358  19.482  1.00  0.00      H
ATOM    891  N   ALA A  58       8.603  73.540  16.895  1.00  0.21      N
ATOM    892  CA  ALA A  58       8.722  73.047  15.556  1.00  0.21      C
ATOM    893  C   ALA A  58       7.341  72.692  15.120  1.00  0.21      C
ATOM    894  O   ALA A  58       6.578  72.084  15.870  1.00  0.21      O
ATOM    895  CB  ALA A  58       9.596  71.785  15.430  1.00  0.21      C
ATOM    896  H   ALA A  58       9.197  73.133  17.613  1.00  0.00      H
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ATOM    897  HA  ALA A  58     9.154  73.899  15.035  1.00  0.00     H
ATOM    898 1HB  ALA A  58     9.729  71.530  14.369  1.00  0.00     H
ATOM    899 2HB  ALA A  58    10.589  71.945  15.874  1.00  0.00     H
ATOM    900 3HB  ALA A  58     9.118  70.934  15.936  1.00  0.00     H
ATOM    901  N   LYS A  59     6.977  73.095  13.889  1.00  0.31     N
ATOM    902  CA  LYS A  59     5.653  72.852  13.401  1.00  0.31     C
ATOM    903  C   LYS A  59     5.671  71.665  12.498  1.00  0.31     C
ATOM    904  O   LYS A  59     6.710  71.054  12.255  1.00  0.31     O
ATOM    905  CB  LYS A  59     5.066  74.025  12.597  1.00  0.31     C
ATOM    906  CG  LYS A  59     4.819  75.274  13.445  1.00  0.31     C
ATOM    907  CD  LYS A  59     3.812  75.062  14.579  1.00  0.31     C
ATOM    908  CE  LYS A  59     3.593  76.308  15.443  1.00  0.31     C
ATOM    909  NZ  LYS A  59     2.607  76.020  16.509  1.00  0.31     N1+
ATOM    910  H   LYS A  59     7.667  73.546  13.283  1.00  0.00     H
ATOM    911  HA  LYS A  59     4.994  72.593  14.243  1.00  0.00     H
ATOM    912 1HB  LYS A  59     4.188  73.779  11.986  1.00  0.00     H
ATOM    913 2HB  LYS A  59     5.917  74.358  11.995  1.00  0.00     H
ATOM    914 1HG  LYS A  59     4.449  76.103  12.824  1.00  0.00     H
ATOM    915 2HG  LYS A  59     5.784  75.617  13.863  1.00  0.00     H
ATOM    916 1HD  LYS A  59     4.154  74.242  15.231  1.00  0.00     H
ATOM    917 2HD  LYS A  59     2.851  74.742  14.138  1.00  0.00     H
ATOM    918 1HE  LYS A  59     3.202  77.149  14.846  1.00  0.00     H
ATOM    919 2HE  LYS A  59     4.527  76.641  15.925  1.00  0.00     H
ATOM    920 1HZ  LYS A  59     2.435  76.829  17.091  1.00  0.00     H
ATOM    921 2HZ  LYS A  59     1.719  75.717  16.136  1.00  0.00     H
ATOM    922 3HZ  LYS A  59     2.973  75.299  17.120  1.00  0.00     H
ATOM    923  N   PHE A  60     4.477  71.314  11.983  1.00  0.23     N
ATOM    924  CA  PHE A  60     4.318  70.228  11.063  1.00  0.23     C
ATOM    925  C   PHE A  60     5.095  70.579   9.839  1.00  0.23     C
ATOM    926  O   PHE A  60     5.704  69.726   9.197  1.00  0.23     O
ATOM    927  CB  PHE A  60     2.858  70.016  10.632  1.00  0.23     C
ATOM    928  CG  PHE A  60     2.873  69.034   9.510  1.00  0.23     C
ATOM    929  CD1 PHE A  60     2.961  67.682   9.748  1.00  0.23     C
ATOM    930  CD2 PHE A  60     2.798  69.475   8.208  1.00  0.23     C
ATOM    931  CE1 PHE A  60     2.977  66.787   8.705  1.00  0.23     C
ATOM    932  CE2 PHE A  60     2.813  68.584   7.161  1.00  0.23     C
ATOM    933  CZ  PHE A  60     2.902  67.236   7.409  1.00  0.23     C
ATOM    934  H   PHE A  60     3.633  71.764  12.295  1.00  0.00     H
ATOM    935  HA  PHE A  60     4.520  69.253  11.406  1.00  0.00     H
ATOM    936 1HB  PHE A  60     2.378  70.957  10.321  1.00  0.00     H
ATOM    937 2HB  PHE A  60     2.278  69.639  11.490  1.00  0.00     H
ATOM    938  HD1 PHE A  60     3.027  67.313  10.769  1.00  0.00     H
ATOM    939  HD2 PHE A  60     2.735  70.540   7.999  1.00  0.00     H
ATOM    940  HE1 PHE A  60     3.056  65.721   8.908  1.00  0.00     H
ATOM    941  HE2 PHE A  60     2.763  68.947   6.138  1.00  0.00     H
ATOM    942  HZ  PHE A  60     2.922  66.528   6.584  1.00  0.00     H
ATOM    943  N   GLU A  61     5.095  71.879   9.508  1.00  0.15     N
ATOM    944  CA  GLU A  61     5.748  72.420   8.354  1.00  0.15     C
ATOM    945  C   GLU A  61     7.218  72.152   8.459  1.00  0.15     C
ATOM    946  O   GLU A  61     7.889  71.928   7.454  1.00  0.15     O
ATOM    947  CB  GLU A  61     5.528  73.936   8.259  1.00  0.15     C
ATOM    948  CG  GLU A  61     5.975  74.676   9.522  1.00  0.15     C
ATOM    949  CD  GLU A  61     5.349  76.063   9.510  1.00  0.15     C
ATOM    950  OE1 GLU A  61     5.260  76.667   8.408  1.00  0.15     O
ATOM    951  OE2 GLU A  61     4.938  76.533  10.605  1.00  0.15     O1-
ATOM    952  H   GLU A  61     4.636  72.552  10.097  1.00  0.00     H
ATOM    953  HA  GLU A  61     5.382  71.916   7.445  1.00  0.00     H
ATOM    954 1HB  GLU A  61     4.456  74.129   8.074  1.00  0.00     H
ATOM    955 2HB  GLU A  61     6.074  74.289   7.366  1.00  0.00     H
ATOM    956 1HG  GLU A  61     7.066  74.750   9.599  1.00  0.00     H
ATOM    957 2HG  GLU A  61     5.569  74.098  10.323  1.00  0.00     H
ATOM    958  N   ASP A  62     7.751  72.147   9.694  1.00  0.16     N
ATOM    959  CA  ASP A  62     9.160  71.997   9.932  1.00  0.16     C
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ATOM    960  C   ASP A  62     9.664  70.682   9.421  1.00  0.16     C
ATOM    961  O   ASP A  62    10.828  70.586   9.041  1.00  0.16     O
ATOM    962  CB  ASP A  62     9.539  72.120  11.419  1.00  0.16     C
ATOM    963  CG  ASP A  62     9.413  73.590  11.797  1.00  0.16     C
ATOM    964  OD1 ASP A  62     9.136  74.412  10.883  1.00  0.16     O
ATOM    965  OD2 ASP A  62     9.605  73.914  13.000  1.00  0.16     O1-
ATOM    966  H   ASP A  62     7.202  72.371  10.507  1.00  0.00     H
ATOM    967  HA  ASP A  62     9.712  72.751   9.343  1.00  0.00     H
ATOM    968 1HB  ASP A  62    10.604  71.848  11.527  1.00  0.00     H
ATOM    969 2HB  ASP A  62     9.012  71.445  12.095  1.00  0.00     H
ATOM    970  N   SER A  63     8.832  69.622   9.415  1.00  0.20     N
ATOM    971  CA  SER A  63     9.308  68.342   8.962  1.00  0.20     C
ATOM    972  C   SER A  63     9.869  68.484   7.579  1.00  0.20     C
ATOM    973  O   SER A  63     9.321  69.189   6.734  1.00  0.20     O
ATOM    974  CB  SER A  63     8.213  67.262   8.921  1.00  0.20     C
ATOM    975  OG  SER A  63     7.222  67.611   7.966  1.00  0.20     O
ATOM    976  H   SER A  63     7.856  69.781   9.622  1.00  0.00     H
ATOM    977  HA  SER A  63    10.093  68.029   9.673  1.00  0.00     H
ATOM    978 1HB  SER A  63     7.772  67.106   9.916  1.00  0.00     H
ATOM    979 2HB  SER A  63     8.648  66.313   8.584  1.00  0.00     H
ATOM    980  HG  SER A  63     6.731  68.382   8.306  1.00  0.00     H
ATOM    981  N   GLY A  64    11.016  67.816   7.328  1.00  0.22     N
ATOM    982  CA  GLY A  64    11.651  67.892   6.044  1.00  0.22     C
ATOM    983  C   GLY A  64    13.081  67.501   6.233  1.00  0.22     C
ATOM    984  O   GLY A  64    13.461  66.997   7.288  1.00  0.22     O
ATOM    985  H   GLY A  64    11.410  67.173   8.006  1.00  0.00     H
ATOM    986 1HA  GLY A  64    11.494  68.851   5.553  1.00  0.00     H
ATOM    987 2HA  GLY A  64    11.200  67.149   5.359  1.00  0.00     H
ATOM    988  N   GLU A  65    13.918  67.728   5.199  1.00  0.19     N
ATOM    989  CA  GLU A  65    15.307  67.383   5.302  1.00  0.19     C
ATOM    990  C   GLU A  65    16.074  68.644   5.515  1.00  0.19     C
ATOM    991  O   GLU A  65    15.711  69.702   5.000  1.00  0.19     O
ATOM    992  CB  GLU A  65    15.910  66.744   4.040  1.00  0.19     C
ATOM    993  CG  GLU A  65    15.403  65.337   3.730  1.00  0.19     C
ATOM    994  CD  GLU A  65    16.200  64.821   2.539  1.00  0.19     C
ATOM    995  OE1 GLU A  65    16.409  65.606   1.575  1.00  0.19     O
ATOM    996  OE2 GLU A  65    16.625  63.635   2.584  1.00  0.19     O1-
ATOM    997  H   GLU A  65    13.592  68.118   4.323  1.00  0.00     H
ATOM    998  HA  GLU A  65    15.418  66.667   6.112  1.00  0.00     H
ATOM    999 1HB  GLU A  65    16.996  66.696   4.211  1.00  0.00     H
ATOM   1000 2HB  GLU A  65    15.743  67.417   3.182  1.00  0.00     H
ATOM   1001 1HG  GLU A  65    14.334  65.361   3.473  1.00  0.00     H
ATOM   1002 2HG  GLU A  65    15.576  64.670   4.587  1.00  0.00     H
ATOM   1003  N   TYR A  66    17.164  68.560   6.304  1.00  0.22     N
ATOM   1004  CA  TYR A  66    17.970  69.718   6.549  1.00  0.22     C
ATOM   1005  C   TYR A  66    19.342  69.441   6.020  1.00  0.22     C
ATOM   1006  O   TYR A  66    19.839  68.318   6.099  1.00  0.22     O
ATOM   1007  CB  TYR A  66    18.124  70.071   8.040  1.00  0.22     C
ATOM   1008  CG  TYR A  66    16.782  70.448   8.567  1.00  0.22     C
ATOM   1009  CD1 TYR A  66    15.918  69.482   9.033  1.00  0.22     C
ATOM   1010  CD2 TYR A  66    16.382  71.764   8.592  1.00  0.22     C
ATOM   1011  CE1 TYR A  66    14.679  69.825   9.522  1.00  0.22     C
ATOM   1012  CE2 TYR A  66    15.144  72.114   9.078  1.00  0.22     C
ATOM   1013  CZ  TYR A  66    14.291  71.143   9.544  1.00  0.22     C
ATOM   1014  OH  TYR A  66    13.021  71.499  10.044  1.00  0.22     O
ATOM   1015  H   TYR A  66    17.342  67.720   6.847  1.00  0.00     H
ATOM   1016  HA  TYR A  66    17.532  70.591   6.047  1.00  0.00     H
ATOM   1017 1HB  TYR A  66    18.806  70.937   8.084  1.00  0.00     H
ATOM   1018 2HB  TYR A  66    18.599  69.314   8.651  1.00  0.00     H
ATOM   1019  HD1 TYR A  66    16.191  68.433   9.006  1.00  0.00     H
ATOM   1020  HD2 TYR A  66    17.046  72.541   8.220  1.00  0.00     H
ATOM   1021  HE1 TYR A  66    13.997  69.066   9.847  1.00  0.00     H
ATOM   1022  HE2 TYR A  66    14.837  73.158   9.089  1.00  0.00     H
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ATOM   1023  HH  TYR A  66     12.339  71.120   9.464  1.00  0.00     H
ATOM   1024  N   LYS A  67     19.979  70.475   5.440  1.00  0.45     N
ATOM   1025  CA  LYS A  67     21.299  70.333   4.900  1.00  0.45     C
ATOM   1026  C   LYS A  67     22.038  71.587   5.238  1.00  0.45     C
ATOM   1027  O   LYS A  67     21.429  72.627   5.482  1.00  0.45     O
ATOM   1028  CB  LYS A  67     21.302  70.211   3.371  1.00  0.45     C
ATOM   1029  CG  LYS A  67     20.591  68.953   2.871  1.00  0.45     C
ATOM   1030  CD  LYS A  67     20.205  69.019   1.394  1.00  0.45     C
ATOM   1031  CE  LYS A  67     18.982  69.902   1.129  1.00  0.45     C
ATOM   1032  NZ  LYS A  67     17.786  69.303   1.761  1.00  0.45     N1+
ATOM   1033  H   LYS A  67     19.577  71.404   5.412  1.00  0.00     H
ATOM   1034  HA  LYS A  67     21.802  69.466   5.361  1.00  0.00     H
ATOM   1035 1HB  LYS A  67     22.349  70.191   3.016  1.00  0.00     H
ATOM   1036 2HB  LYS A  67     20.856  71.125   2.952  1.00  0.00     H
ATOM   1037 1HG  LYS A  67     19.696  68.714   3.468  1.00  0.00     H
ATOM   1038 2HG  LYS A  67     21.325  68.161   3.088  1.00  0.00     H
ATOM   1039 1HD  LYS A  67     19.999  68.030   0.954  1.00  0.00     H
ATOM   1040 2HD  LYS A  67     21.053  69.426   0.812  1.00  0.00     H
ATOM   1041 1HE  LYS A  67     18.775  69.982   0.049  1.00  0.00     H
ATOM   1042 2HE  LYS A  67     19.096  70.919   1.529  1.00  0.00     H
ATOM   1043 1HZ  LYS A  67     16.927  69.761   1.486  1.00  0.00     H
ATOM   1044 2HZ  LYS A  67     17.669  68.327   1.501  1.00  0.00     H
ATOM   1045 3HZ  LYS A  67     17.829  69.331   2.772  1.00  0.00     H
ATOM   1046  N   CYS A  68     23.383  71.512   5.281  1.00  0.52     N
ATOM   1047  CA  CYS A  68     24.163  72.670   5.606  1.00  0.52     C
ATOM   1048  C   CYS A  68     25.428  72.644   4.811  1.00  0.52     C
ATOM   1049  O   CYS A  68     25.970  71.578   4.524  1.00  0.52     O
ATOM   1050  CB  CYS A  68     24.621  72.687   7.065  1.00  0.52     C
ATOM   1051  SG  CYS A  68     25.956  73.885   7.311  1.00  0.52     S
ATOM   1052  H   CYS A  68     23.896  70.694   5.003  1.00  0.00     H
ATOM   1053  HA  CYS A  68     23.591  73.579   5.374  1.00  0.00     H
ATOM   1054 1HB  CYS A  68     24.992  71.688   7.349  1.00  0.00     H
ATOM   1055 2HB  CYS A  68     23.803  72.945   7.724  1.00  0.00     H
ATOM   1056  N   GLN A  69     25.931  73.832   4.420  1.00  0.27     N
ATOM   1057  CA  GLN A  69     27.206  73.865   3.771  1.00  0.27     C
ATOM   1058  C   GLN A  69     27.926  75.086   4.234  1.00  0.27     C
ATOM   1059  O   GLN A  69     27.323  76.038   4.727  1.00  0.27     O
ATOM   1060  CB  GLN A  69     27.150  73.939   2.237  1.00  0.27     C
ATOM   1061  CG  GLN A  69     26.530  75.227   1.700  1.00  0.27     C
ATOM   1062  CD  GLN A  69     26.687  75.210   0.186  1.00  0.27     C
ATOM   1063  OE1 GLN A  69     27.435  74.400  -0.360  1.00  0.27     O
ATOM   1064  NE2 GLN A  69     25.967  76.130  -0.511  1.00  0.27     N
ATOM   1065  H   GLN A  69     25.524  74.715   4.697  1.00  0.00     H
ATOM   1066  HA  GLN A  69     27.798  72.992   4.081  1.00  0.00     H
ATOM   1067 1HB  GLN A  69     26.598  73.064   1.859  1.00  0.00     H
ATOM   1068 2HB  GLN A  69     28.189  73.841   1.876  1.00  0.00     H
ATOM   1069 1HG  GLN A  69     27.185  76.031   2.029  1.00  0.00     H
ATOM   1070 2HG  GLN A  69     25.497  75.374   2.036  1.00  0.00     H
ATOM   1071 1HE2 GLN A  69     25.234  76.647  -0.068  1.00  0.00     H
ATOM   1072 2HE2 GLN A  69     25.927  75.922  -1.496  1.00  0.00     H
ATOM   1073  N   HIS A  70     29.263  75.063   4.102  1.00  0.11     N
ATOM   1074  CA  HIS A  70     30.076  76.188   4.443  1.00  0.11     C
ATOM   1075  C   HIS A  70     30.899  76.470   3.237  1.00  0.11     C
ATOM   1076  O   HIS A  70     30.877  75.716   2.267  1.00  0.11     O
ATOM   1077  CB  HIS A  70     31.043  75.946   5.612  1.00  0.11     C
ATOM   1078  CG  HIS A  70     30.339  75.869   6.930  1.00  0.11     C
ATOM   1079  ND1 HIS A  70     29.937  76.975   7.646  1.00  0.11     N
ATOM   1080  CD2 HIS A  70     29.953  74.791   7.664  1.00  0.11     C
ATOM   1081  CE1 HIS A  70     29.331  76.515   8.768  1.00  0.11     C
ATOM   1082  NE2 HIS A  70     29.316  75.195   8.824  1.00  0.11     N
ATOM   1083  H   HIS A  70     29.699  74.376   3.501  1.00  0.00     H
ATOM   1084  HA  HIS A  70     29.447  77.067   4.660  1.00  0.00     H
ATOM   1085 1HB  HIS A  70     31.767  76.777   5.657  1.00  0.00     H
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ATOM   1086 2HB  HIS A  70    31.637  75.036   5.471  1.00  0.00     H
ATOM   1087  HD2 HIS A  70    30.099  73.743   7.447  1.00  0.00     H
ATOM   1088  HE1 HIS A  70    29.020  77.159   9.580  1.00  0.00     H
ATOM   1089  HE2 HIS A  70    29.016  74.625   9.592  1.00  0.00     H
ATOM   1090  N   GLN A  71    31.625  77.600   3.251  1.00  0.12     N
ATOM   1091  CA  GLN A  71    32.441  77.912   2.121  1.00  0.12     C
ATOM   1092  C   GLN A  71    33.468  76.834   2.009  1.00  0.12     C
ATOM   1093  O   GLN A  71    33.753  76.341   0.920  1.00  0.12     O
ATOM   1094  CB  GLN A  71    33.197  79.243   2.276  1.00  0.12     C
ATOM   1095  CG  GLN A  71    32.304  80.487   2.279  1.00  0.12     C
ATOM   1096  CD  GLN A  71    31.895  80.783   0.843  1.00  0.12     C
ATOM   1097  OE1 GLN A  71    32.123  79.983  -0.063  1.00  0.12     O
ATOM   1098  NE2 GLN A  71    31.272  81.970   0.623  1.00  0.12     N
ATOM   1099  H   GLN A  71    31.670  78.217   4.051  1.00  0.00     H
ATOM   1100  HA  GLN A  71    31.834  77.889   1.204  1.00  0.00     H
ATOM   1101 1HB  GLN A  71    33.962  79.321   1.481  1.00  0.00     H
ATOM   1102 2HB  GLN A  71    33.758  79.212   3.225  1.00  0.00     H
ATOM   1103 1HG  GLN A  71    32.874  81.347   2.668  1.00  0.00     H
ATOM   1104 2HG  GLN A  71    31.411  80.332   2.901  1.00  0.00     H
ATOM   1105 1HE2 GLN A  71    31.126  82.615   1.391  1.00  0.00     H
ATOM   1106 2HE2 GLN A  71    31.056  82.232  -0.322  1.00  0.00     H
ATOM   1107  N   GLN A  72    34.046  76.440   3.157  1.00  0.21     N
ATOM   1108  CA  GLN A  72    35.117  75.489   3.188  1.00  0.21     C
ATOM   1109  C   GLN A  72    34.660  74.129   2.761  1.00  0.21     C
ATOM   1110  O   GLN A  72    35.308  73.483   1.940  1.00  0.21     O
ATOM   1111  CB  GLN A  72    35.698  75.320   4.602  1.00  0.21     C
ATOM   1112  CG  GLN A  72    36.104  76.644   5.252  1.00  0.21     C
ATOM   1113  CD  GLN A  72    37.057  77.372   4.316  1.00  0.21     C
ATOM   1114  OE1 GLN A  72    37.630  76.784   3.400  1.00  0.21     O
ATOM   1115  NE2 GLN A  72    37.224  78.701   4.547  1.00  0.21     N
ATOM   1116  H   GLN A  72    33.776  76.855   4.029  1.00  0.00     H
ATOM   1117  HA  GLN A  72    35.857  75.781   2.433  1.00  0.00     H
ATOM   1118 1HB  GLN A  72    36.568  74.648   4.507  1.00  0.00     H
ATOM   1119 2HB  GLN A  72    34.952  74.810   5.225  1.00  0.00     H
ATOM   1120 1HG  GLN A  72    36.614  76.581   6.211  1.00  0.00     H
ATOM   1121 2HG  GLN A  72    35.212  77.270   5.418  1.00  0.00     H
ATOM   1122 1HE2 GLN A  72    36.792  79.141   5.341  1.00  0.00     H
ATOM   1123 2HE2 GLN A  72    37.891  79.177   3.967  1.00  0.00     H
ATOM   1124  N   VAL A  73    33.516  73.660   3.298  1.00  0.31     N
ATOM   1125  CA  VAL A  73    33.130  72.297   3.072  1.00  0.31     C
ATOM   1126  C   VAL A  73    32.145  72.164   1.959  1.00  0.31     C
ATOM   1127  O   VAL A  73    31.658  73.139   1.388  1.00  0.31     O
ATOM   1128  CB  VAL A  73    32.521  71.650   4.283  1.00  0.31     C
ATOM   1129  CG1 VAL A  73    33.583  71.602   5.395  1.00  0.31     C
ATOM   1130  CG2 VAL A  73    31.247  72.424   4.666  1.00  0.31     C
ATOM   1131  H   VAL A  73    32.902  74.241   3.836  1.00  0.00     H
ATOM   1132  HA  VAL A  73    34.032  71.730   2.786  1.00  0.00     H
ATOM   1133  HB  VAL A  73    32.166  70.641   4.101  1.00  0.00     H
ATOM   1134 1HG1 VAL A  73    33.219  71.046   6.275  1.00  0.00     H
ATOM   1135 2HG1 VAL A  73    34.505  71.104   5.053  1.00  0.00     H
ATOM   1136 3HG1 VAL A  73    33.855  72.612   5.740  1.00  0.00     H
ATOM   1137 1HG2 VAL A  73    31.260  72.697   5.729  1.00  0.00     H
ATOM   1138 2HG2 VAL A  73    31.174  73.376   4.129  1.00  0.00     H
ATOM   1139 3HG2 VAL A  73    30.331  71.901   4.407  1.00  0.00     H
ATOM   1140  N   ASN A  74    31.857  70.887   1.634  1.00  0.41     N
ATOM   1141  CA  ASN A  74    30.932  70.453   0.630  1.00  0.41     C
ATOM   1142  C   ASN A  74    29.580  70.504   1.270  1.00  0.41     C
ATOM   1143  O   ASN A  74    29.409  71.115   2.322  1.00  0.41     O
ATOM   1144  CB  ASN A  74    31.202  68.997   0.200  1.00  0.41     C
ATOM   1145  CG  ASN A  74    30.458  68.687  -1.090  1.00  0.41     C
ATOM   1146  OD1 ASN A  74    29.812  69.553  -1.676  1.00  0.41     O
ATOM   1147  ND2 ASN A  74    30.542  67.407  -1.542  1.00  0.41     N
ATOM   1148  H   ASN A  74    32.331  70.149   2.145  1.00  0.00     H
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ATOM   1149  HA  ASN A  74      30.976  71.153  -0.222  1.00  0.00      H
ATOM   1150 1HB  ASN A  74      30.921  68.305   1.004  1.00  0.00      H
ATOM   1151 2HB  ASN A  74      32.278  68.864  -0.003  1.00  0.00      H
ATOM   1152 1HD2 ASN A  74      30.976  66.687  -0.997  1.00  0.00      H
ATOM   1153 2HD2 ASN A  74      29.971  67.179  -2.339  1.00  0.00      H
ATOM   1154  N   GLU A  75      28.567  69.896   0.622  1.00  0.48      N
ATOM   1155  CA  GLU A  75      27.249  69.863   1.180  1.00  0.48      C
ATOM   1156  C   GLU A  75      27.241  68.797   2.228  1.00  0.48      C
ATOM   1157  O   GLU A  75      27.925  67.781   2.100  1.00  0.48      O
ATOM   1158  CB  GLU A  75      26.170  69.500   0.145  1.00  0.48      C
ATOM   1159  CG  GLU A  75      26.047  70.526  -0.982  1.00  0.48      C
ATOM   1160  CD  GLU A  75      25.367  71.763  -0.418  1.00  0.48      C
ATOM   1161  OE1 GLU A  75      24.699  71.637   0.643  1.00  0.48      O
ATOM   1162  OE2 GLU A  75      25.503  72.851  -1.039  1.00  0.48      O1-
ATOM   1163  H   GLU A  75      28.657  69.614  -0.346  1.00  0.00      H
ATOM   1164  HA  GLU A  75      27.017  70.847   1.621  1.00  0.00      H
ATOM   1165 1HB  GLU A  75      25.207  69.347   0.665  1.00  0.00      H
ATOM   1166 2HB  GLU A  75      26.423  68.509  -0.272  1.00  0.00      H
ATOM   1167 1HG  GLU A  75      25.416  70.134  -1.797  1.00  0.00      H
ATOM   1168 2HG  GLU A  75      27.009  70.787  -1.450  1.00  0.00      H
ATOM   1169  N   SER A  76      26.469  69.018   3.309  1.00  0.42      N
ATOM   1170  CA  SER A  76      26.382  68.066   4.377  1.00  0.42      C
ATOM   1171  C   SER A  76      25.336  67.064   4.009  1.00  0.42      C
ATOM   1172  O   SER A  76      24.507  67.313   3.136  1.00  0.42      O
ATOM   1173  CB  SER A  76      25.956  68.704   5.710  1.00  0.42      C
ATOM   1174  OG  SER A  76      25.873  67.713   6.720  1.00  0.42      O
ATOM   1175  H   SER A  76      26.027  69.921   3.444  1.00  0.00      H
ATOM   1176  HA  SER A  76      27.347  67.548   4.497  1.00  0.00      H
ATOM   1177 1HB  SER A  76      24.918  69.048   5.529  1.00  0.00      H
ATOM   1178 2HB  SER A  76      26.368  69.600   6.179  1.00  0.00      H
ATOM   1179  HG  SER A  76      25.075  67.185   6.523  1.00  0.00      H
ATOM   1180  N   GLU A  77      25.365  65.881   4.660  1.00  0.31      N
ATOM   1181  CA  GLU A  77      24.357  64.903   4.380  1.00  0.31      C
ATOM   1182  C   GLU A  77      23.106  65.426   4.998  1.00  0.31      C
ATOM   1183  O   GLU A  77      23.138  66.145   5.994  1.00  0.31      O
ATOM   1184  CB  GLU A  77      24.596  63.527   5.023  1.00  0.31      C
ATOM   1185  CG  GLU A  77      25.878  62.834   4.571  1.00  0.31      C
ATOM   1186  CD  GLU A  77      26.987  63.328   5.483  1.00  0.31      C
ATOM   1187  OE1 GLU A  77      26.707  63.507   6.699  1.00  0.31      O
ATOM   1188  OE2 GLU A  77      28.123  63.535   4.981  1.00  0.31      O1-
ATOM   1189  H   GLU A  77      26.107  65.592   5.291  1.00  0.00      H
ATOM   1190  HA  GLU A  77      24.351  64.725   3.293  1.00  0.00      H
ATOM   1191 1HB  GLU A  77      23.730  62.916   4.704  1.00  0.00      H
ATOM   1192 2HB  GLU A  77      24.496  63.579   6.121  1.00  0.00      H
ATOM   1193 1HG  GLU A  77      26.103  63.000   3.506  1.00  0.00      H
ATOM   1194 2HG  GLU A  77      25.778  61.745   4.715  1.00  0.00      H
ATOM   1195  N   PRO A  78      22.004  65.094   4.398  1.00  0.29      N
ATOM   1196  CA  PRO A  78      20.764  65.579   4.932  1.00  0.29      C
ATOM   1197  C   PRO A  78      20.323  64.843   6.154  1.00  0.29      C
ATOM   1198  O   PRO A  78      20.684  63.679   6.323  1.00  0.29      O
ATOM   1199  CB  PRO A  78      19.756  65.509   3.788  1.00  0.29      C
ATOM   1200  CG  PRO A  78      20.627  65.643   2.527  1.00  0.29      C
ATOM   1201  CD  PRO A  78      21.979  65.042   2.944  1.00  0.29      C
ATOM   1202  HA  PRO A  78      20.930  66.637   5.154  1.00  0.00      H
ATOM   1203 1HB  PRO A  78      18.975  66.271   3.881  1.00  0.00      H
ATOM   1204 2HB  PRO A  78      19.253  64.526   3.777  1.00  0.00      H
ATOM   1205 1HG  PRO A  78      20.743  66.647   2.155  1.00  0.00      H
ATOM   1206 2HG  PRO A  78      20.192  65.085   1.679  1.00  0.00      H
ATOM   1207 1HD  PRO A  78      22.062  63.992   2.622  1.00  0.00      H
ATOM   1208 2HD  PRO A  78      22.791  65.613   2.482  1.00  0.00      H
ATOM   1209  N   VAL A  79      19.557  65.529   7.022  1.00  0.31      N
ATOM   1210  CA  VAL A  79      18.978  64.935   8.187  1.00  0.31      C
ATOM   1211  C   VAL A  79      17.507  65.106   8.006  1.00  0.31      C
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ATOM   1212  O   VAL A  79    17.055  66.173   7.593  1.00  0.31    O
ATOM   1213  CB  VAL A  79    19.362  65.618   9.465  1.00  0.31    C
ATOM   1214  CG1 VAL A  79    18.925  67.090   9.386  1.00  0.31    C
ATOM   1215  CG2 VAL A  79    18.732  64.848  10.638  1.00  0.31    C
ATOM   1216  H   VAL A  79    19.361  66.506   6.860  1.00  0.00    H
ATOM   1217  HA  VAL A  79    19.257  63.869   8.216  1.00  0.00    H
ATOM   1218  HB  VAL A  79    20.462  65.577   9.567  1.00  0.00    H
ATOM   1219 1HG1 VAL A  79    19.391  67.661  10.210  1.00  0.00    H
ATOM   1220 2HG1 VAL A  79    19.283  67.547   8.460  1.00  0.00    H
ATOM   1221 3HG1 VAL A  79    17.846  67.223   9.523  1.00  0.00    H
ATOM   1222 1HG2 VAL A  79    19.088  65.237  11.607  1.00  0.00    H
ATOM   1223 2HG2 VAL A  79    17.634  64.939  10.652  1.00  0.00    H
ATOM   1224 3HG2 VAL A  79    18.990  63.776  10.606  1.00  0.00    H
ATOM   1225  N   TYR A  80    16.709  64.061   8.294  1.00  0.19    N
ATOM   1226  CA  TYR A  80    15.305  64.228   8.067  1.00  0.19    C
ATOM   1227  C   TYR A  80    14.649  64.401   9.394  1.00  0.19    C
ATOM   1228  O   TYR A  80    14.925  63.669  10.343  1.00  0.19    O
ATOM   1229  CB  TYR A  80    14.628  63.040   7.359  1.00  0.19    C
ATOM   1230  CG  TYR A  80    13.244  63.476   7.018  1.00  0.19    C
ATOM   1231  CD1 TYR A  80    12.214  63.344   7.921  1.00  0.19    C
ATOM   1232  CD2 TYR A  80    12.983  64.029   5.785  1.00  0.19    C
ATOM   1233  CE1 TYR A  80    10.942  63.754   7.597  1.00  0.19    C
ATOM   1234  CE2 TYR A  80    11.714  64.441   5.454  1.00  0.19    C
ATOM   1235  CZ  TYR A  80    10.692  64.301   6.360  1.00  0.19    C
ATOM   1236  OH  TYR A  80     9.387  64.723   6.025  1.00  0.19    O
ATOM   1237  H   TYR A  80    17.008  63.184   8.683  1.00  0.00    H
ATOM   1238  HA  TYR A  80    15.134  65.090   7.415  1.00  0.00    H
ATOM   1239 1HB  TYR A  80    14.633  62.141   7.994  1.00  0.00    H
ATOM   1240 2HB  TYR A  80    15.197  62.785   6.450  1.00  0.00    H
ATOM   1241  HD1 TYR A  80    12.423  62.901   8.890  1.00  0.00    H
ATOM   1242  HD2 TYR A  80    13.756  64.049   5.036  1.00  0.00    H
ATOM   1243  HE1 TYR A  80    10.137  63.698   8.310  1.00  0.00    H
ATOM   1244  HE2 TYR A  80    11.519  64.850   4.465  1.00  0.00    H
ATOM   1245  HH  TYR A  80     8.972  65.029   6.840  1.00  0.00    H
ATOM   1246  N   LEU A  81    13.760  65.406   9.490  1.00  0.08    N
ATOM   1247  CA  LEU A  81    13.094  65.671  10.729  1.00  0.08    C
ATOM   1248  C   LEU A  81    11.635  65.423  10.529  1.00  0.08    C
ATOM   1249  O   LEU A  81    11.076  65.757   9.485  1.00  0.08    O
ATOM   1250  CB  LEU A  81    13.250  67.130  11.191  1.00  0.08    C
ATOM   1251  CG  LEU A  81    12.542  67.437  12.522  1.00  0.08    C
ATOM   1252  CD1 LEU A  81    13.157  66.632  13.678  1.00  0.08    C
ATOM   1253  CD2 LEU A  81    12.505  68.948  12.800  1.00  0.08    C
ATOM   1254  H   LEU A  81    13.531  65.997   8.697  1.00  0.00    H
ATOM   1255  HA  LEU A  81    13.489  64.991  11.494  1.00  0.00    H
ATOM   1256 1HB  LEU A  81    12.768  67.742  10.414  1.00  0.00    H
ATOM   1257 2HB  LEU A  81    14.319  67.393  11.257  1.00  0.00    H
ATOM   1258  HG  LEU A  81    11.483  67.141  12.421  1.00  0.00    H
ATOM   1259 1HD1 LEU A  81    12.405  66.346  14.427  1.00  0.00    H
ATOM   1260 2HD1 LEU A  81    13.691  65.731  13.359  1.00  0.00    H
ATOM   1261 3HD1 LEU A  81    13.915  67.235  14.207  1.00  0.00    H
ATOM   1262 1HD2 LEU A  81    11.952  69.171  13.726  1.00  0.00    H
ATOM   1263 2HD2 LEU A  81    13.519  69.368  12.903  1.00  0.00    H
ATOM   1264 3HD2 LEU A  81    12.001  69.489  11.981  1.00  0.00    H
ATOM   1265  N   GLU A  82    10.987  64.798  11.529  1.00  0.09    N
ATOM   1266  CA  GLU A  82     9.582  64.537  11.444  1.00  0.09    C
ATOM   1267  C   GLU A  82     8.969  65.149  12.660  1.00  0.09    C
ATOM   1268  O   GLU A  82     9.443  64.940  13.776  1.00  0.09    O
ATOM   1269  CB  GLU A  82     9.250  63.035  11.486  1.00  0.09    C
ATOM   1270  CG  GLU A  82     9.774  62.251  10.282  1.00  0.09    C
ATOM   1271  CD  GLU A  82     9.587  60.767  10.568  1.00  0.09    C
ATOM   1272  OE1 GLU A  82     8.557  60.408  11.201  1.00  0.09    O
ATOM   1273  OE2 GLU A  82    10.477  59.972  10.166  1.00  0.09    O1-
ATOM   1274  H   GLU A  82    11.437  64.495  12.385  1.00  0.00    H
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ATOM   1275  HA  GLU A  82     9.165  64.964  10.521  1.00  0.00     H
ATOM   1276 1HB  GLU A  82     8.149  62.967  11.523  1.00  0.00     H
ATOM   1277 2HB  GLU A  82     9.643  62.600  12.420  1.00  0.00     H
ATOM   1278 1HG  GLU A  82    10.829  62.451  10.073  1.00  0.00     H
ATOM   1279 2HG  GLU A  82     9.148  62.474   9.408  1.00  0.00     H
ATOM   1280  N   VAL A  83     7.896  65.936  12.476  1.00  0.09     N
ATOM   1281  CA  VAL A  83     7.263  66.538  13.611  1.00  0.09     C
ATOM   1282  C   VAL A  83     5.907  65.928  13.711  1.00  0.09     C
ATOM   1283  O   VAL A  83     5.239  65.720  12.700  1.00  0.09     O
ATOM   1284  CB  VAL A  83     7.069  68.016  13.470  1.00  0.09     C
ATOM   1285  CG1 VAL A  83     8.451  68.684  13.377  1.00  0.09     C
ATOM   1286  CG2 VAL A  83     6.170  68.268  12.250  1.00  0.09     C
ATOM   1287  H   VAL A  83     7.390  65.999  11.611  1.00  0.00     H
ATOM   1288  HA  VAL A  83     7.846  66.346  14.521  1.00  0.00     H
ATOM   1289  HB  VAL A  83     6.558  68.385  14.379  1.00  0.00     H
ATOM   1290 1HG1 VAL A  83     8.397  69.772  13.515  1.00  0.00     H
ATOM   1291 2HG1 VAL A  83     9.130  68.308  14.159  1.00  0.00     H
ATOM   1292 3HG1 VAL A  83     8.933  68.497  12.403  1.00  0.00     H
ATOM   1293 1HG2 VAL A  83     6.508  69.061  11.601  1.00  0.00     H
ATOM   1294 2HG2 VAL A  83     6.129  67.447  11.520  1.00  0.00     H
ATOM   1295 3HG2 VAL A  83     5.180  68.342  12.716  1.00  0.00     H
ATOM   1296  N   PHE A  84     5.469  65.606  14.943  1.00  0.23     N
ATOM   1297  CA  PHE A  84     4.182  64.994  15.076  1.00  0.23     C
ATOM   1298  C   PHE A  84     3.459  65.747  16.138  1.00  0.23     C
ATOM   1299  O   PHE A  84     4.077  66.424  16.959  1.00  0.23     O
ATOM   1300  CB  PHE A  84     4.229  63.552  15.606  1.00  0.23     C
ATOM   1301  CG  PHE A  84     5.215  62.773  14.810  1.00  0.23     C
ATOM   1302  CD1 PHE A  84     4.889  62.234  13.590  1.00  0.23     C
ATOM   1303  CD2 PHE A  84     6.487  62.595  15.293  1.00  0.23     C
ATOM   1304  CE1 PHE A  84     5.814  61.522  12.865  1.00  0.23     C
ATOM   1305  CE2 PHE A  84     7.414  61.883  14.572  1.00  0.23     C
ATOM   1306  CZ  PHE A  84     7.081  61.341  13.357  1.00  0.23     C
ATOM   1307  H   PHE A  84     6.045  65.661  15.777  1.00  0.00     H
ATOM   1308  HA  PHE A  84     3.619  65.035  14.132  1.00  0.00     H
ATOM   1309 1HB  PHE A  84     3.221  63.109  15.548  1.00  0.00     H
ATOM   1310 2HB  PHE A  84     4.503  63.548  16.673  1.00  0.00     H
ATOM   1311  HD1 PHE A  84     3.881  62.359  13.203  1.00  0.00     H
ATOM   1312  HD2 PHE A  84     6.776  63.092  16.211  1.00  0.00     H
ATOM   1313  HE1 PHE A  84     5.532  61.066  11.919  1.00  0.00     H
ATOM   1314  HE2 PHE A  84     8.434  62.194  14.641  1.00  0.00     H
ATOM   1315  HZ  PHE A  84     7.738  60.588  13.011  1.00  0.00     H
ATOM   1316  N   SER A  85     2.115  65.679  16.131  1.00  0.34     N
ATOM   1317  CA  SER A  85     1.395  66.292  17.204  1.00  0.34     C
ATOM   1318  C   SER A  85     0.673  65.190  17.915  1.00  0.34     C
ATOM   1319  O   SER A  85    -0.388  64.740  17.488  1.00  0.34     O
ATOM   1320  CB  SER A  85     0.370  67.346  16.748  1.00  0.34     C
ATOM   1321  OG  SER A  85    -0.610  66.760  15.906  1.00  0.34     O
ATOM   1322  H   SER A  85     1.591  65.046  15.547  1.00  0.00     H
ATOM   1323  HA  SER A  85     2.077  66.796  17.905  1.00  0.00     H
ATOM   1324 1HB  SER A  85     0.858  68.148  16.180  1.00  0.00     H
ATOM   1325 2HB  SER A  85    -0.105  67.775  17.647  1.00  0.00     H
ATOM   1326  HG  SER A  85    -0.897  65.942  16.364  1.00  0.00     H
ATOM   1327  N   ASP A  86     1.255  64.718  19.032  1.00  0.23     N
ATOM   1328  CA  ASP A  86     0.646  63.662  19.785  1.00  0.23     C
ATOM   1329  C   ASP A  86     0.958  63.925  21.219  1.00  0.23     C
ATOM   1330  O   ASP A  86     1.850  64.710  21.535  1.00  0.23     O
ATOM   1331  CB  ASP A  86     1.209  62.269  19.458  1.00  0.23     C
ATOM   1332  CG  ASP A  86     0.750  61.889  18.058  1.00  0.23     C
ATOM   1333  OD1 ASP A  86    -0.436  62.161  17.730  1.00  0.23     O
ATOM   1334  OD2 ASP A  86     1.581  61.328  17.294  1.00  0.23     O1-
ATOM   1335  H   ASP A  86     2.097  65.076  19.438  1.00  0.00     H
ATOM   1336  HA  ASP A  86    -0.450  63.676  19.655  1.00  0.00     H
ATOM   1337 1HB  ASP A  86     0.728  61.556  20.149  1.00  0.00     H
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ATOM   1338 2HB  ASP A  86      2.265  62.020  19.445  1.00  0.00      H
ATOM   1339  N   TRP A  87      0.199  63.299  22.136  1.00  0.14      N
ATOM   1340  CA  TRP A  87      0.482  63.500  23.524  1.00  0.14      C
ATOM   1341  C   TRP A  87      1.782  62.871  23.895  1.00  0.14      C
ATOM   1342  O   TRP A  87      2.587  63.476  24.598  1.00  0.14      O
ATOM   1343  CB  TRP A  87     -0.603  62.984  24.479  1.00  0.14      C
ATOM   1344  CG  TRP A  87     -1.760  63.943  24.577  1.00  0.14      C
ATOM   1345  CD1 TRP A  87     -3.025  63.873  24.074  1.00  0.14      C
ATOM   1346  CD2 TRP A  87     -1.660  65.206  25.254  1.00  0.14      C
ATOM   1347  NE1 TRP A  87     -3.722  65.014  24.401  1.00  0.14      N
ATOM   1348  CE2 TRP A  87     -2.892  65.844  25.126  1.00  0.14      C
ATOM   1349  CE3 TRP A  87     -0.621  65.786  25.924  1.00  0.14      C
ATOM   1350  CZ2 TRP A  87     -3.106  67.080  25.670  1.00  0.14      C
ATOM   1351  CZ3 TRP A  87     -0.839  67.029  26.474  1.00  0.14      C
ATOM   1352  CH2 TRP A  87     -2.058  67.665  26.350  1.00  0.14      C
ATOM   1353  H   TRP A  87     -0.549  62.677  21.872  1.00  0.00      H
ATOM   1354  HA  TRP A  87      0.614  64.581  23.692  1.00  0.00      H
ATOM   1355 1HB  TRP A  87     -0.152  62.874  25.482  1.00  0.00      H
ATOM   1356 2HB  TRP A  87     -0.938  61.974  24.197  1.00  0.00      H
ATOM   1357  HD1 TRP A  87     -3.478  63.070  23.505  1.00  0.00      H
ATOM   1358  HE1 TRP A  87     -4.681  65.186  24.205  1.00  0.00      H
ATOM   1359  HE3 TRP A  87      0.335  65.286  26.045  1.00  0.00      H
ATOM   1360  HZ2 TRP A  87     -4.070  67.574  25.578  1.00  0.00      H
ATOM   1361  HZ3 TRP A  87     -0.071  67.493  27.066  1.00  0.00      H
ATOM   1362  HH2 TRP A  87     -2.209  68.629  26.826  1.00  0.00      H
ATOM   1363  N   LEU A  88      2.035  61.637  23.423  1.00  0.12      N
ATOM   1364  CA  LEU A  88      3.244  60.972  23.818  1.00  0.12      C
ATOM   1365  C   LEU A  88      3.845  60.339  22.607  1.00  0.12      C
ATOM   1366  O   LEU A  88      3.126  59.888  21.717  1.00  0.12      O
ATOM   1367  CB  LEU A  88      2.988  59.838  24.827  1.00  0.12      C
ATOM   1368  CG  LEU A  88      4.252  59.089  25.294  1.00  0.12      C
ATOM   1369  CD1 LEU A  88      5.169  59.984  26.135  1.00  0.12      C
ATOM   1370  CD2 LEU A  88      3.893  57.777  26.012  1.00  0.12      C
ATOM   1371  H   LEU A  88      1.475  61.180  22.722  1.00  0.00      H
ATOM   1372  HA  LEU A  88      3.945  61.699  24.244  1.00  0.00      H
ATOM   1373 1HB  LEU A  88      2.285  59.119  24.367  1.00  0.00      H
ATOM   1374 2HB  LEU A  88      2.468  60.250  25.711  1.00  0.00      H
ATOM   1375  HG  LEU A  88      4.824  58.770  24.411  1.00  0.00      H
ATOM   1376 1HD1 LEU A  88      6.215  59.895  25.827  1.00  0.00      H
ATOM   1377 2HD1 LEU A  88      4.833  61.025  26.171  1.00  0.00      H
ATOM   1378 3HD1 LEU A  88      5.148  59.665  27.192  1.00  0.00      H
ATOM   1379 1HD2 LEU A  88      4.792  57.191  26.258  1.00  0.00      H
ATOM   1380 2HD2 LEU A  88      3.353  57.971  26.954  1.00  0.00      H
ATOM   1381 3HD2 LEU A  88      3.238  57.148  25.391  1.00  0.00      H
ATOM   1382  N   LEU A  89      5.192  60.305  22.535  1.00  0.11      N
ATOM   1383  CA  LEU A  89      5.817  59.659  21.418  1.00  0.11      C
ATOM   1384  C   LEU A  89      7.020  58.940  21.934  1.00  0.11      C
ATOM   1385  O   LEU A  89      7.608  59.330  22.942  1.00  0.11      O
ATOM   1386  CB  LEU A  89      6.316  60.624  20.325  1.00  0.11      C
ATOM   1387  CG  LEU A  89      6.996  59.930  19.129  1.00  0.11      C
ATOM   1388  CD1 LEU A  89      6.001  59.044  18.356  1.00  0.11      C
ATOM   1389  CD2 LEU A  89      7.712  60.949  18.228  1.00  0.11      C
ATOM   1390  H   LEU A  89      5.789  60.680  23.262  1.00  0.00      H
ATOM   1391  HA  LEU A  89      5.072  59.108  20.865  1.00  0.00      H
ATOM   1392 1HB  LEU A  89      7.013  61.361  20.757  1.00  0.00      H
ATOM   1393 2HB  LEU A  89      5.451  61.173  19.917  1.00  0.00      H
ATOM   1394  HG  LEU A  89      7.833  59.325  19.477  1.00  0.00      H
ATOM   1395 1HD1 LEU A  89      6.458  58.614  17.450  1.00  0.00      H
ATOM   1396 2HD1 LEU A  89      5.636  58.199  18.955  1.00  0.00      H
ATOM   1397 3HD1 LEU A  89      5.127  59.633  18.029  1.00  0.00      H
ATOM   1398 1HD2 LEU A  89      8.143  60.354  17.418  1.00  0.00      H
ATOM   1399 2HD2 LEU A  89      7.008  61.683  17.815  1.00  0.00      H
ATOM   1400 3HD2 LEU A  89      8.510  61.485  18.761  1.00  0.00      H
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ATOM   1401  N   LEU A  90      7.400  57.840  21.259  1.00  0.11      N
ATOM   1402  CA  LEU A  90      8.597  57.166  21.649  1.00  0.11      C
ATOM   1403  C   LEU A  90      9.606  57.680  20.677  1.00  0.11      C
ATOM   1404  O   LEU A  90      9.404  57.600  19.467  1.00  0.11      O
ATOM   1405  CB  LEU A  90      8.527  55.634  21.510  1.00  0.11      C
ATOM   1406  CG  LEU A  90      9.818  54.918  21.950  1.00  0.11      C
ATOM   1407  CD1 LEU A  90     10.083  55.137  23.448  1.00  0.11      C
ATOM   1408  CD2 LEU A  90      9.793  53.429  21.568  1.00  0.11      C
ATOM   1409  H   LEU A  90      7.168  57.724  20.279  1.00  0.00      H
ATOM   1410  HA  LEU A  90      8.845  57.420  22.688  1.00  0.00      H
ATOM   1411 1HB  LEU A  90      8.288  55.373  20.463  1.00  0.00      H
ATOM   1412 2HB  LEU A  90      7.684  55.257  22.117  1.00  0.00      H
ATOM   1413  HG  LEU A  90     10.652  55.369  21.379  1.00  0.00      H
ATOM   1414 1HD1 LEU A  90     11.099  55.509  23.615  1.00  0.00      H
ATOM   1415 2HD1 LEU A  90      9.407  55.868  23.914  1.00  0.00      H
ATOM   1416 3HD1 LEU A  90      9.922  54.203  24.002  1.00  0.00      H
ATOM   1417 1HD2 LEU A  90     10.779  52.972  21.676  1.00  0.00      H
ATOM   1418 2HD2 LEU A  90      9.069  52.884  22.192  1.00  0.00      H
ATOM   1419 3HD2 LEU A  90      9.493  53.311  20.514  1.00  0.00      H
ATOM   1420  N   GLN A  91     10.719  58.238  21.185  1.00  0.11      N
ATOM   1421  CA  GLN A  91     11.640  58.868  20.289  1.00  0.11      C
ATOM   1422  C   GLN A  91     12.857  58.018  20.152  1.00  0.11      C
ATOM   1423  O   GLN A  91     13.277  57.346  21.093  1.00  0.11      O
ATOM   1424  CB  GLN A  91     12.096  60.254  20.782  1.00  0.11      C
ATOM   1425  CG  GLN A  91     10.956  61.273  20.886  1.00  0.11      C
ATOM   1426  CD  GLN A  91     11.531  62.582  21.415  1.00  0.11      C
ATOM   1427  OE1 GLN A  91     12.410  62.580  22.275  1.00  0.11      O
ATOM   1428  NE2 GLN A  91     11.026  63.730  20.890  1.00  0.11      N
ATOM   1429  H   GLN A  91     10.880  58.341  22.182  1.00  0.00      H
ATOM   1430  HA  GLN A  91     11.164  59.029  19.308  1.00  0.00      H
ATOM   1431 1HB  GLN A  91     12.816  60.629  20.042  1.00  0.00      H
ATOM   1432 2HB  GLN A  91     12.614  60.147  21.748  1.00  0.00      H
ATOM   1433 1HG  GLN A  91     10.184  60.951  21.607  1.00  0.00      H
ATOM   1434 2HG  GLN A  91     10.464  61.391  19.910  1.00  0.00      H
ATOM   1435 1HE2 GLN A  91     10.469  63.660  20.055  1.00  0.00      H
ATOM   1436 2HE2 GLN A  91     11.451  64.600  21.151  1.00  0.00      H
ATOM   1437  N   ALA A  92     13.435  58.011  18.936  1.00  0.18      N
ATOM   1438  CA  ALA A  92     14.630  57.261  18.701  1.00  0.18      C
ATOM   1439  C   ALA A  92     15.533  58.108  17.870  1.00  0.18      C
ATOM   1440  O   ALA A  92     15.082  58.925  17.072  1.00  0.18      O
ATOM   1441  CB  ALA A  92     14.397  55.956  17.923  1.00  0.18      C
ATOM   1442  H   ALA A  92     13.116  58.559  18.152  1.00  0.00      H
ATOM   1443  HA  ALA A  92     15.098  56.977  19.650  1.00  0.00      H
ATOM   1444 1HB  ALA A  92     15.351  55.416  17.814  1.00  0.00      H
ATOM   1445 2HB  ALA A  92     13.693  55.304  18.463  1.00  0.00      H
ATOM   1446 3HB  ALA A  92     13.990  56.146  16.918  1.00  0.00      H
ATOM   1447  N   SER A  93     16.852  57.959  18.076  1.00  0.25      N
ATOM   1448  CA  SER A  93     17.796  58.710  17.309  1.00  0.25      C
ATOM   1449  C   SER A  93     17.756  58.227  15.893  1.00  0.25      C
ATOM   1450  O   SER A  93     17.703  59.024  14.957  1.00  0.25      O
ATOM   1451  CB  SER A  93     19.230  58.542  17.826  1.00  0.25      C
ATOM   1452  OG  SER A  93     20.123  59.308  17.034  1.00  0.25      O
ATOM   1453  H   SER A  93     17.208  57.332  18.779  1.00  0.00      H
ATOM   1454  HA  SER A  93     17.535  59.779  17.322  1.00  0.00      H
ATOM   1455 1HB  SER A  93     19.526  57.478  17.807  1.00  0.00      H
ATOM   1456 2HB  SER A  93     19.278  58.881  18.878  1.00  0.00      H
ATOM   1457  HG  SER A  93     21.022  59.117  17.333  1.00  0.00      H
ATOM   1458  N   ALA A  94     17.769  56.893  15.694  1.00  0.19      N
ATOM   1459  CA  ALA A  94     17.777  56.384  14.351  1.00  0.19      C
ATOM   1460  C   ALA A  94     16.919  55.161  14.290  1.00  0.19      C
ATOM   1461  O   ALA A  94     16.764  54.435  15.271  1.00  0.19      O
ATOM   1462  CB  ALA A  94     19.179  55.986  13.860  1.00  0.19      C
ATOM   1463  H   ALA A  94     17.675  56.216  16.429  1.00  0.00      H
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ATOM   1464  HA  ALA A  94      17.357  57.141  13.668  1.00  0.00      H
ATOM   1465 1HB  ALA A  94      19.119  55.626  12.821  1.00  0.00      H
ATOM   1466 2HB  ALA A  94      19.858  56.852  13.885  1.00  0.00      H
ATOM   1467 3HB  ALA A  94      19.610  55.186  14.481  1.00  0.00      H
ATOM   1468  N   GLU A  95      16.301  54.943  13.114  1.00  0.12      N
ATOM   1469  CA  GLU A  95      15.454  53.816  12.861  1.00  0.12      C
ATOM   1470  C   GLU A  95      16.282  52.569  12.802  1.00  0.12      C
ATOM   1471  O   GLU A  95      15.920  51.545  13.378  1.00  0.12      O
ATOM   1472  CB  GLU A  95      14.711  53.966  11.522  1.00  0.12      C
ATOM   1473  CG  GLU A  95      13.753  55.164  11.506  1.00  0.12      C
ATOM   1474  CD  GLU A  95      13.312  55.426  10.073  1.00  0.12      C
ATOM   1475  OE1 GLU A  95      13.538  54.538   9.208  1.00  0.12      O
ATOM   1476  OE2 GLU A  95      12.742  56.522   9.826  1.00  0.12      O1-
ATOM   1477  H   GLU A  95      16.317  55.628  12.375  1.00  0.00      H
ATOM   1478  HA  GLU A  95      14.723  53.702  13.677  1.00  0.00      H
ATOM   1479 1HB  GLU A  95      14.147  53.030  11.359  1.00  0.00      H
ATOM   1480 2HB  GLU A  95      15.448  54.046  10.704  1.00  0.00      H
ATOM   1481 1HG  GLU A  95      14.200  56.089  11.906  1.00  0.00      H
ATOM   1482 2HG  GLU A  95      12.869  54.967  12.134  1.00  0.00      H
ATOM   1483  N   VAL A  96      17.436  52.630  12.110  1.00  0.11      N
ATOM   1484  CA  VAL A  96      18.234  51.449  11.956  1.00  0.11      C
ATOM   1485  C   VAL A  96      19.504  51.637  12.709  1.00  0.11      C
ATOM   1486  O   VAL A  96      20.025  52.747  12.813  1.00  0.11      O
ATOM   1487  CB  VAL A  96      18.599  51.162  10.531  1.00  0.11      C
ATOM   1488 CG1  VAL A  96      19.514  49.924  10.495  1.00  0.11      C
ATOM   1489 CG2  VAL A  96      17.299  51.002   9.726  1.00  0.11      C
ATOM   1490  H   VAL A  96      17.805  53.489  11.747  1.00  0.00      H
ATOM   1491  HA  VAL A  96      17.676  50.587  12.332  1.00  0.00      H
ATOM   1492  HB  VAL A  96      19.167  52.009  10.104  1.00  0.00      H
ATOM   1493 1HG1 VAL A  96      19.610  49.588   9.448  1.00  0.00      H
ATOM   1494 2HG1 VAL A  96      20.517  50.203  10.851  1.00  0.00      H
ATOM   1495 3HG1 VAL A  96      19.099  49.089  11.077  1.00  0.00      H
ATOM   1496 1HG2 VAL A  96      17.491  50.648   8.699  1.00  0.00      H
ATOM   1497 2HG2 VAL A  96      16.617  50.282  10.198  1.00  0.00      H
ATOM   1498 3HG2 VAL A  96      16.754  51.957   9.632  1.00  0.00      H
ATOM   1499  N   VAL A  97      20.028  50.531  13.268  1.00  0.10      N
ATOM   1500  CA  VAL A  97      21.230  50.600  14.039  1.00  0.10      C
ATOM   1501  C   VAL A  97      22.100  49.467  13.620  1.00  0.10      C
ATOM   1502  O   VAL A  97      21.654  48.534  12.957  1.00  0.10      O
ATOM   1503  CB  VAL A  97      20.992  50.432  15.511  1.00  0.10      C
ATOM   1504 CG1  VAL A  97      20.128  51.603  16.004  1.00  0.10      C
ATOM   1505 CG2  VAL A  97      20.363  49.050  15.752  1.00  0.10      C
ATOM   1506  H   VAL A  97      19.530  49.654  13.277  1.00  0.00      H
ATOM   1507  HA  VAL A  97      21.758  51.533  13.789  1.00  0.00      H
ATOM   1508  HB  VAL A  97      21.926  50.382  16.060  1.00  0.00      H
ATOM   1509 1HG1 VAL A  97      20.116  51.663  17.104  1.00  0.00      H
ATOM   1510 2HG1 VAL A  97      20.458  52.583  15.626  1.00  0.00      H
ATOM   1511 3HG1 VAL A  97      19.080  51.481  15.680  1.00  0.00      H
ATOM   1512 1HG2 VAL A  97      20.214  48.890  16.835  1.00  0.00      H
ATOM   1513 2HG2 VAL A  97      19.366  48.957  15.298  1.00  0.00      H
ATOM   1514 3HG2 VAL A  97      21.003  48.221  15.413  1.00  0.00      H
ATOM   1515  N   MET A  98      23.386  49.536  14.004  1.00  0.12      N
ATOM   1516  CA  MET A  98      24.315  48.497  13.688  1.00  0.12      C
ATOM   1517  C   MET A  98      24.355  47.640  14.909  1.00  0.12      C
ATOM   1518  O   MET A  98      24.093  48.117  16.012  1.00  0.12      O
ATOM   1519  CB  MET A  98      25.737  49.029  13.442  1.00  0.12      C
ATOM   1520  CG  MET A  98      25.810  50.033  12.286  1.00  0.12      C
ATOM   1521  SD  MET A  98      25.466  49.342  10.639  1.00  0.12      S
ATOM   1522  CE  MET A  98      27.170  48.804  10.325  1.00  0.12      C
ATOM   1523  H   MET A  98      23.734  50.300  14.559  1.00  0.00      H
ATOM   1524  HA  MET A  98      24.011  47.939  12.813  1.00  0.00      H
ATOM   1525 1HB  MET A  98      26.406  48.172  13.257  1.00  0.00      H
ATOM   1526 2HB  MET A  98      26.107  49.527  14.356  1.00  0.00      H
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ATOM   1527 1HG  MET A  98    26.805  50.510  12.241  1.00  0.00    H
ATOM   1528 2HG  MET A  98    25.093  50.856  12.444  1.00  0.00    H
ATOM   1529 1HE  MET A  98    27.192  48.311   9.342  1.00  0.00    H
ATOM   1530 2HE  MET A  98    27.854  49.665  10.300  1.00  0.00    H
ATOM   1531 3HE  MET A  98    27.497  48.081  11.086  1.00  0.00    H
ATOM   1532  N   GLU A  99    24.653  46.339  14.755  1.00  0.10    N
ATOM   1533  CA  GLU A  99    24.662  45.530  15.936  1.00  0.10    C
ATOM   1534  C   GLU A  99    25.806  45.976  16.779  1.00  0.10    C
ATOM   1535  O   GLU A  99    26.866  46.341  16.272  1.00  0.10    O
ATOM   1536  CB  GLU A  99    24.838  44.022  15.682  1.00  0.10    C
ATOM   1537  CG  GLU A  99    24.757  43.196  16.970  1.00  0.10    C
ATOM   1538  CD  GLU A  99    24.956  41.726  16.629  1.00  0.10    C
ATOM   1539  OE1 GLU A  99    24.323  41.247  15.652  1.00  0.10    O
ATOM   1540  OE2 GLU A  99    25.752  41.063  17.347  1.00  0.10    O1-
ATOM   1541  H   GLU A  99    24.979  45.929  13.900  1.00  0.00    H
ATOM   1542  HA  GLU A  99    23.696  45.668  16.459  1.00  0.00    H
ATOM   1543 1HB  GLU A  99    25.788  43.861  15.155  1.00  0.00    H
ATOM   1544 2HB  GLU A  99    23.975  43.700  15.117  1.00  0.00    H
ATOM   1545 1HG  GLU A  99    23.715  43.288  17.265  1.00  0.00    H
ATOM   1546 2HG  GLU A  99    25.443  43.481  17.776  1.00  0.00    H
ATOM   1547  N   GLY A 100    25.599  45.973  18.108  1.00  0.20    N
ATOM   1548  CA  GLY A 100    26.641  46.338  19.014  1.00  0.20    C
ATOM   1549  C   GLY A 100    26.474  47.770  19.396  1.00  0.20    C
ATOM   1550  O   GLY A 100    27.034  48.210  20.399  1.00  0.20    O
ATOM   1551  H   GLY A 100    24.793  45.476  18.493  1.00  0.00    H
ATOM   1552 1HA  GLY A 100    27.635  46.198  18.562  1.00  0.00    H
ATOM   1553 2HA  GLY A 100    26.586  45.711  19.915  1.00  0.00    H
ATOM   1554  N   GLN A 101    25.696  48.551  18.624  1.00  0.50    N
ATOM   1555  CA  GLN A 101    25.580  49.916  19.038  1.00  0.50    C
ATOM   1556  C   GLN A 101    24.520  50.006  20.078  1.00  0.50    C
ATOM   1557  O   GLN A 101    23.614  49.177  20.161  1.00  0.50    O
ATOM   1558  CB  GLN A 101    25.311  50.943  17.920  1.00  0.50    C
ATOM   1559  CG  GLN A 101    23.985  50.816  17.175  1.00  0.50    C
ATOM   1560  CD  GLN A 101    23.925  52.009  16.224  1.00  0.50    C
ATOM   1561  OE1 GLN A 101    22.862  52.418  15.763  1.00  0.50    O
ATOM   1562  NE2 GLN A 101    25.114  52.601  15.932  1.00  0.50    N
ATOM   1563  H   GLN A 101    25.186  48.208  17.818  1.00  0.00    H
ATOM   1564  HA  GLN A 101    26.589  50.219  19.360  1.00  0.00    H
ATOM   1565 1HB  GLN A 101    26.170  50.832  17.236  1.00  0.00    H
ATOM   1566 2HB  GLN A 101    25.362  51.936  18.402  1.00  0.00    H
ATOM   1567 1HG  GLN A 101    23.127  50.886  17.861  1.00  0.00    H
ATOM   1568 2HG  GLN A 101    23.855  50.016  16.515  1.00  0.00    H
ATOM   1569 1HE2 GLN A 101    25.979  52.314  16.347  1.00  0.00    H
ATOM   1570 2HE2 GLN A 101    25.070  53.427  15.358  1.00  0.00    H
ATOM   1571  N   PRO A 102    24.671  50.987  20.918  1.00  0.57    N
ATOM   1572  CA  PRO A 102    23.702  51.170  21.956  1.00  0.57    C
ATOM   1573  C   PRO A 102    22.464  51.776  21.396  1.00  0.57    C
ATOM   1574  O   PRO A 102    22.552  52.542  20.440  1.00  0.57    O
ATOM   1575  CB  PRO A 102    24.375  52.030  23.023  1.00  0.57    C
ATOM   1576  CG  PRO A 102    25.870  51.719  22.846  1.00  0.57    C
ATOM   1577  CD  PRO A 102    26.007  51.366  21.355  1.00  0.57    C
ATOM   1578  HA  PRO A 102    23.501  50.183  22.400  1.00  0.00    H
ATOM   1579 1HB  PRO A 102    23.985  51.835  24.034  1.00  0.00    H
ATOM   1580 2HB  PRO A 102    24.196  53.099  22.815  1.00  0.00    H
ATOM   1581 1HG  PRO A 102    26.136  50.844  23.462  1.00  0.00    H
ATOM   1582 2HG  PRO A 102    26.539  52.537  23.155  1.00  0.00    H
ATOM   1583 1HD  PRO A 102    26.352  52.231  20.768  1.00  0.00    H
ATOM   1584 2HD  PRO A 102    26.737  50.556  21.257  1.00  0.00    H
ATOM   1585  N   LEU A 103    21.299  51.440  21.973  1.00  0.26    N
ATOM   1586  CA  LEU A 103    20.081  52.025  21.517  1.00  0.26    C
ATOM   1587  C   LEU A 103    19.597  52.884  22.628  1.00  0.26    C
ATOM   1588  O   LEU A 103    19.568  52.462  23.782  1.00  0.26    O
ATOM   1589  CB  LEU A 103    18.971  51.003  21.213  1.00  0.26    C
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ATOM   1590  CG  LEU A 103    17.661  51.649  20.720  1.00  0.26      C
ATOM   1591  CD1 LEU A 103    17.856  52.350  19.366  1.00  0.26      C
ATOM   1592  CD2 LEU A 103    16.509  50.631  20.709  1.00  0.26      C
ATOM   1593  H   LEU A 103    21.252  50.742  22.706  1.00  0.00      H
ATOM   1594  HA  LEU A 103    20.277  52.609  20.607  1.00  0.00      H
ATOM   1595 1HB  LEU A 103    18.745  50.444  22.129  1.00  0.00      H
ATOM   1596 2HB  LEU A 103    19.330  50.271  20.467  1.00  0.00      H
ATOM   1597  HG  LEU A 103    17.358  52.425  21.447  1.00  0.00      H
ATOM   1598 1HD1 LEU A 103    16.913  52.798  19.010  1.00  0.00      H
ATOM   1599 2HD1 LEU A 103    18.597  53.162  19.405  1.00  0.00      H
ATOM   1600 3HD1 LEU A 103    18.182  51.630  18.598  1.00  0.00      H
ATOM   1601 1HD2 LEU A 103    15.604  51.038  20.237  1.00  0.00      H
ATOM   1602 2HD2 LEU A 103    16.779  49.714  20.160  1.00  0.00      H
ATOM   1603 3HD2 LEU A 103    16.227  50.355  21.735  1.00  0.00      H
ATOM   1604  N   PHE A 104    19.234  54.137  22.312  1.00  0.08      N
ATOM   1605  CA  PHE A 104    18.730  54.987  23.344  1.00  0.08      C
ATOM   1606  C   PHE A 104    17.343  55.343  22.936  1.00  0.08      C
ATOM   1607  O   PHE A 104    17.099  55.705  21.785  1.00  0.08      O
ATOM   1608  CB  PHE A 104    19.527  56.291  23.513  1.00  0.08      C
ATOM   1609  CG  PHE A 104    18.986  57.015  24.699  1.00  0.08      C
ATOM   1610  CD1 PHE A 104    19.376  56.664  25.972  1.00  0.08      C
ATOM   1611  CD2 PHE A 104    18.097  58.052  24.540  1.00  0.08      C
ATOM   1612  CE1 PHE A 104    18.881  57.333  27.066  1.00  0.08      C
ATOM   1613  CE2 PHE A 104    17.597  58.725  25.630  1.00  0.08      C
ATOM   1614  CZ  PHE A 104    17.990  58.364  26.896  1.00  0.08      C
ATOM   1615  H   PHE A 104    19.154  54.483  21.371  1.00  0.00      H
ATOM   1616  HA  PHE A 104    18.727  54.463  24.309  1.00  0.00      H
ATOM   1617 1HB  PHE A 104    19.477  56.897  22.596  1.00  0.00      H
ATOM   1618 2HB  PHE A 104    20.592  56.046  23.663  1.00  0.00      H
ATOM   1619  HD1 PHE A 104    20.097  55.863  26.109  1.00  0.00      H
ATOM   1620  HD2 PHE A 104    18.020  58.419  23.527  1.00  0.00      H
ATOM   1621  HE1 PHE A 104    19.224  57.065  28.062  1.00  0.00      H
ATOM   1622  HE2 PHE A 104    16.936  59.563  25.591  1.00  0.00      H
ATOM   1623  HZ  PHE A 104    17.766  59.003  27.735  1.00  0.00      H
ATOM   1624  N   LEU A 105    16.385  55.216  23.872  1.00  0.10      N
ATOM   1625  CA  LEU A 105    15.028  55.541  23.562  1.00  0.10      C
ATOM   1626  C   LEU A 105    14.558  56.470  24.624  1.00  0.10      C
ATOM   1627  O   LEU A 105    15.108  56.504  25.724  1.00  0.10      O
ATOM   1628  CB  LEU A 105    14.079  54.330  23.569  1.00  0.10      C
ATOM   1629  CG  LEU A 105    14.388  53.284  22.481  1.00  0.10      C
ATOM   1630  CD1 LEU A 105    13.388  52.118  22.534  1.00  0.10      C
ATOM   1631  CD2 LEU A 105    14.485  53.930  21.090  1.00  0.10      C
ATOM   1632  H   LEU A 105    16.573  54.928  24.828  1.00  0.00      H
ATOM   1633  HA  LEU A 105    14.968  56.061  22.597  1.00  0.00      H
ATOM   1634 1HB  LEU A 105    13.123  54.780  23.234  1.00  0.00      H
ATOM   1635 2HB  LEU A 105    13.791  53.897  24.481  1.00  0.00      H
ATOM   1636  HG  LEU A 105    15.382  52.848  22.697  1.00  0.00      H
ATOM   1637 1HD1 LEU A 105    13.415  51.501  21.622  1.00  0.00      H
ATOM   1638 2HD1 LEU A 105    13.614  51.452  23.383  1.00  0.00      H
ATOM   1639 3HD1 LEU A 105    12.364  52.474  22.682  1.00  0.00      H
ATOM   1640 1HD2 LEU A 105    14.787  53.185  20.341  1.00  0.00      H
ATOM   1641 2HD2 LEU A 105    13.499  54.316  20.781  1.00  0.00      H
ATOM   1642 3HD2 LEU A 105    15.189  54.755  20.996  1.00  0.00      H
ATOM   1643  N   ARG A 106    13.530  57.274  24.307  1.00  0.15      N
ATOM   1644  CA  ARG A 106    13.059  58.210  25.276  1.00  0.15      C
ATOM   1645  C   ARG A 106    11.579  58.303  25.130  1.00  0.15      C
ATOM   1646  O   ARG A 106    11.049  58.285  24.020  1.00  0.15      O
ATOM   1647  CB  ARG A 106    13.663  59.604  25.034  1.00  0.15      C
ATOM   1648  CG  ARG A 106    13.241  60.704  26.004  1.00  0.15      C
ATOM   1649  CD  ARG A 106    14.061  61.978  25.787  1.00  0.15      C
ATOM   1650  NE  ARG A 106    13.541  63.034  26.698  1.00  0.15      N1+
ATOM   1651  CZ  ARG A 106    12.993  64.164  26.169  1.00  0.15      C
ATOM   1652  NH1 ARG A 106    12.935  64.310  24.813  1.00  0.15      N
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ATOM   1653  NH2 ARG A 106     12.531  65.148  26.995  1.00  0.15      N
ATOM   1654  H   ARG A 106     13.091  57.282  23.397  1.00  0.00      H
ATOM   1655  HA  ARG A 106     13.331  57.888  26.288  1.00  0.00      H
ATOM   1656 1HB  ARG A 106     13.453  59.931  24.002  1.00  0.00      H
ATOM   1657 2HB  ARG A 106     14.740  59.440  25.151  1.00  0.00      H
ATOM   1658 1HG  ARG A 106     13.146  60.420  27.059  1.00  0.00      H
ATOM   1659 2HG  ARG A 106     12.200  60.978  25.736  1.00  0.00      H
ATOM   1660 1HD  ARG A 106     13.950  62.234  24.738  1.00  0.00      H
ATOM   1661 2HD  ARG A 106     15.136  61.855  25.994  1.00  0.00      H
ATOM   1662  HE  ARG A 106     13.936  63.151  27.606  1.00  0.00      H
ATOM   1663 1HH1 ARG A 106     12.969  63.518  24.200  1.00  0.00      H
ATOM   1664 2HH1 ARG A 106     12.383  65.056  24.442  1.00  0.00      H
ATOM   1665 1HH2 ARG A 106     12.175  66.008  26.638  1.00  0.00      H
ATOM   1666 2HH2 ARG A 106     12.481  65.003  27.979  1.00  0.00      H
ATOM   1667  N   CYS A 107     10.862  58.384  26.266  1.00  0.16      N
ATOM   1668  CA  CYS A 107      9.446  58.560  26.188  1.00  0.16      C
ATOM   1669  C   CYS A 107      9.261  60.020  26.416  1.00  0.16      C
ATOM   1670  O   CYS A 107      9.650  60.546  27.458  1.00  0.16      O
ATOM   1671  CB  CYS A 107      8.663  57.792  27.268  1.00  0.16      C
ATOM   1672  SG  CYS A 107      9.006  56.009  27.207  1.00  0.16      S
ATOM   1673  H   CYS A 107     11.264  58.413  27.191  1.00  0.00      H
ATOM   1674  HA  CYS A 107      9.063  58.219  25.214  1.00  0.00      H
ATOM   1675 1HB  CYS A 107      7.591  57.974  27.085  1.00  0.00      H
ATOM   1676 2HB  CYS A 107      8.887  58.155  28.282  1.00  0.00      H
ATOM   1677  N   HIS A 108      8.681  60.725  25.429  1.00  0.11      N
ATOM   1678  CA  HIS A 108      8.593  62.147  25.557  1.00  0.11      C
ATOM   1679  C   HIS A 108      7.159  62.550  25.545  1.00  0.11      C
ATOM   1680  O   HIS A 108      6.360  62.037  24.763  1.00  0.11      O
ATOM   1681  CB  HIS A 108      9.321  62.875  24.412  1.00  0.11      C
ATOM   1682  CG  HIS A 108      9.314  64.372  24.517  1.00  0.11      C
ATOM   1683  ND1 HIS A 108      8.352  65.173  23.946  1.00  0.11      N
ATOM   1684  CD2 HIS A 108     10.189  65.217  25.126  1.00  0.11      C
ATOM   1685  CE1 HIS A 108      8.693  66.456  24.231  1.00  0.11      C
ATOM   1686  NE2 HIS A 108      9.799  66.533  24.946  1.00  0.11      N
ATOM   1687  H   HIS A 108      8.344  60.317  24.563  1.00  0.00      H
ATOM   1688  HA  HIS A 108      9.067  62.476  26.494  1.00  0.00      H
ATOM   1689 1HB  HIS A 108      8.903  62.553  23.443  1.00  0.00      H
ATOM   1690 2HB  HIS A 108     10.372  62.547  24.407  1.00  0.00      H
ATOM   1691  HD2 HIS A 108     10.626  64.879  26.029  1.00  0.00      H
ATOM   1692  HE1 HIS A 108      7.908  67.175  24.152  1.00  0.00      H
ATOM   1693  HE2 HIS A 108      9.908  67.286  25.608  1.00  0.00      H
ATOM   1694  N   GLY A 109      6.805  63.499  26.433  1.00  0.09      N
ATOM   1695  CA  GLY A 109      5.456  63.967  26.515  1.00  0.09      C
ATOM   1696  C   GLY A 109      5.417  65.310  25.871  1.00  0.09      C
ATOM   1697  O   GLY A 109      6.414  66.029  25.839  1.00  0.09      O
ATOM   1698  H   GLY A 109      7.478  64.019  26.971  1.00  0.00      H
ATOM   1699 1HA  GLY A 109      5.161  64.080  27.574  1.00  0.00      H
ATOM   1700 2HA  GLY A 109      4.765  63.247  26.058  1.00  0.00      H
ATOM   1701  N   TRP A 110      4.241  65.682  25.339  1.00  0.32      N
ATOM   1702  CA  TRP A 110      4.097  66.934  24.665  1.00  0.32      C
ATOM   1703  C   TRP A 110      4.162  68.019  25.691  1.00  0.32      C
ATOM   1704  O   TRP A 110      3.707  67.858  26.822  1.00  0.32      O
ATOM   1705  CB  TRP A 110      2.767  67.026  23.890  1.00  0.32      C
ATOM   1706  CG  TRP A 110      2.534  68.315  23.142  1.00  0.32      C
ATOM   1707  CD1 TRP A 110      3.146  68.796  22.021  1.00  0.32      C
ATOM   1708  CD2 TRP A 110      1.525  69.270  23.495  1.00  0.32      C
ATOM   1709  NE1 TRP A 110      2.583  69.997  21.657  1.00  0.32      N
ATOM   1710  CE2 TRP A 110      1.580  70.298  22.553  1.00  0.32      C
ATOM   1711  CE3 TRP A 110      0.621  69.288  24.517  1.00  0.32      C
ATOM   1712  CZ2 TRP A 110      0.729  71.364  22.620  1.00  0.32      C
ATOM   1713  CZ3 TRP A 110     -0.236  70.362  24.583  1.00  0.32      C
ATOM   1714  CH2 TRP A 110     -0.183  71.380  23.653  1.00  0.32      C
ATOM   1715  H   TRP A 110      3.501  64.994  25.214  1.00  0.00      H
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ATOM   1716  HA  TRP A 110      4.922  67.038  23.933  1.00  0.00      H
ATOM   1717 1HB  TRP A 110      1.929  66.826  24.573  1.00  0.00      H
ATOM   1718 2HB  TRP A 110      2.766  66.199  23.167  1.00  0.00      H
ATOM   1719  HD1 TRP A 110      4.013  68.408  21.524  1.00  0.00      H
ATOM   1720  HE1 TRP A 110      3.077  70.649  21.085  1.00  0.00      H
ATOM   1721  HE3 TRP A 110      0.604  68.488  25.237  1.00  0.00      H
ATOM   1722  HZ2 TRP A 110      0.771  72.167  21.889  1.00  0.00      H
ATOM   1723  HZ3 TRP A 110     -1.037  70.345  25.317  1.00  0.00      H
ATOM   1724  HH2 TRP A 110     -0.902  72.196  23.710  1.00  0.00      H
ATOM   1725  N   ARG A 111      4.775  69.157  25.311  1.00  0.53      N
ATOM   1726  CA  ARG A 111      4.933  70.280  26.189  1.00  0.53      C
ATOM   1727  C   ARG A 111      5.683  69.866  27.413  1.00  0.53      C
ATOM   1728  O   ARG A 111      5.653  70.566  28.425  1.00  0.53      O
ATOM   1729  CB  ARG A 111      3.620  70.933  26.655  1.00  0.53      C
ATOM   1730  CG  ARG A 111      3.020  71.896  25.633  1.00  0.53      C
ATOM   1731  CD  ARG A 111      2.053  72.917  26.245  1.00  0.53      C
ATOM   1732  NE  ARG A 111      0.754  72.237  26.508  1.00  0.53      N1+
ATOM   1733  CZ  ARG A 111     -0.186  72.834  27.299  1.00  0.53      C
ATOM   1734  NH1 ARG A 111      0.095  74.017  27.921  1.00  0.53      N
ATOM   1735  NH2 ARG A 111     -1.396  72.233  27.493  1.00  0.53      N
ATOM   1736  H   ARG A 111      5.186  69.239  24.389  1.00  0.00      H
ATOM   1737  HA  ARG A 111      5.583  71.018  25.683  1.00  0.00      H
ATOM   1738 1HB  ARG A 111      3.792  71.524  27.570  1.00  0.00      H
ATOM   1739 2HB  ARG A 111      2.899  70.159  26.910  1.00  0.00      H
ATOM   1740 1HG  ARG A 111      2.557  71.368  24.791  1.00  0.00      H
ATOM   1741 2HG  ARG A 111      3.855  72.472  25.192  1.00  0.00      H
ATOM   1742 1HD  ARG A 111      1.871  73.778  25.580  1.00  0.00      H
ATOM   1743 2HD  ARG A 111      2.462  73.292  27.198  1.00  0.00      H
ATOM   1744  HE  ARG A 111      0.400  71.687  25.751  1.00  0.00      H
ATOM   1745 1HH1 ARG A 111      0.986  74.448  27.837  1.00  0.00      H
ATOM   1746 2HH1 ARG A 111     -0.584  74.483  28.480  1.00  0.00      H
ATOM   1747 1HH2 ARG A 111     -2.095  72.648  28.070  1.00  0.00      H
ATOM   1748 2HH2 ARG A 111     -1.585  71.323  27.140  1.00  0.00      H
ATOM   1749  N   ASN A 112      6.402  68.732  27.343  1.00  0.33      N
ATOM   1750  CA  ASN A 112      7.191  68.280  28.452  1.00  0.33      C
ATOM   1751  C   ASN A 112      6.360  68.240  29.693  1.00  0.33      C
ATOM   1752  O   ASN A 112      6.800  68.685  30.754  1.00  0.33      O
ATOM   1753  CB  ASN A 112      8.409  69.178  28.734  1.00  0.33      C
ATOM   1754  CG  ASN A 112      9.405  68.984  27.605  1.00  0.33      C
ATOM   1755  OD1 ASN A 112      9.721  67.852  27.241  1.00  0.33      O
ATOM   1756  ND2 ASN A 112      9.908  70.110  27.031  1.00  0.33      N
ATOM   1757  H   ASN A 112      6.362  68.142  26.519  1.00  0.00      H
ATOM   1758  HA  ASN A 112      7.515  67.243  28.253  1.00  0.00      H
ATOM   1759 1HB  ASN A 112      8.936  68.822  29.637  1.00  0.00      H
ATOM   1760 2HB  ASN A 112      8.129  70.229  28.898  1.00  0.00      H
ATOM   1761 1HD2 ASN A 112      9.555  71.013  27.290  1.00  0.00      H
ATOM   1762 2HD2 ASN A 112     10.399  70.002  26.155  1.00  0.00      H
ATOM   1763  N   TRP A 113      5.133  67.695  29.612  1.00  0.13      N
ATOM   1764  CA  TRP A 113      4.351  67.630  30.808  1.00  0.13      C
ATOM   1765  C   TRP A 113      4.945  66.562  31.665  1.00  0.13      C
ATOM   1766  O   TRP A 113      5.619  65.657  31.177  1.00  0.13      O
ATOM   1767  CB  TRP A 113      2.864  67.316  30.572  1.00  0.13      C
ATOM   1768  CG  TRP A 113      2.109  68.431  29.884  1.00  0.13      C
ATOM   1769  CD1 TRP A 113      1.666  68.514  28.595  1.00  0.13      C
ATOM   1770  CD2 TRP A 113      1.737  69.663  30.524  1.00  0.13      C
ATOM   1771  NE1 TRP A 113      1.030  69.717  28.395  1.00  0.13      N
ATOM   1772  CE2 TRP A 113      1.071  70.435  29.574  1.00  0.13      C
ATOM   1773  CE3 TRP A 113      1.939  70.117  31.798  1.00  0.13      C
ATOM   1774  CZ2 TRP A 113      0.593  71.676  29.891  1.00  0.13      C
ATOM   1775  CZ3 TRP A 113      1.451  71.367  32.110  1.00  0.13      C
ATOM   1776  CH2 TRP A 113      0.791  72.133  31.174  1.00  0.13      C
ATOM   1777  H   TRP A 113      4.706  67.474  28.722  1.00  0.00      H
ATOM   1778  HA  TRP A 113      4.416  68.602  31.331  1.00  0.00      H
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ATOM   1779 1HB  TRP A 113     2.398  67.120  31.554  1.00  0.00     H
ATOM   1780 2HB  TRP A 113     2.768  66.376  30.007  1.00  0.00     H
ATOM   1781  HD1 TRP A 113     1.720  67.746  27.844  1.00  0.00     H
ATOM   1782  HE1 TRP A 113     0.985  70.177  27.511  1.00  0.00     H
ATOM   1783  HE3 TRP A 113     2.453  69.524  32.547  1.00  0.00     H
ATOM   1784  HZ2 TRP A 113    -0.140  72.215  29.363  1.00  0.00     H
ATOM   1785  HZ3 TRP A 113     1.587  71.753  33.118  1.00  0.00     H
ATOM   1786  HH2 TRP A 113     0.388  73.096  31.480  1.00  0.00     H
ATOM   1787  N   ASP A 114     4.712  66.648  32.988  1.00  0.12     N
ATOM   1788  CA  ASP A 114     5.293  65.702  33.895  1.00  0.12     C
ATOM   1789  C   ASP A 114     4.813  64.344  33.513  1.00  0.12     C
ATOM   1790  O   ASP A 114     3.627  64.137  33.263  1.00  0.12     O
ATOM   1791  CB  ASP A 114     4.874  65.921  35.357  1.00  0.12     C
ATOM   1792  CG  ASP A 114     5.445  67.250  35.823  1.00  0.12     C
ATOM   1793  OD1 ASP A 114     6.688  67.432  35.731  1.00  0.12     O
ATOM   1794  OD2 ASP A 114     4.640  68.101  36.285  1.00  0.12     O1-
ATOM   1795  H   ASP A 114     4.235  67.413  33.434  1.00  0.00     H
ATOM   1796  HA  ASP A 114     6.396  65.763  33.822  1.00  0.00     H
ATOM   1797 1HB  ASP A 114     5.326  65.104  35.943  1.00  0.00     H
ATOM   1798 2HB  ASP A 114     3.782  65.878  35.482  1.00  0.00     H
ATOM   1799  N   VAL A 115     5.746  63.378  33.447  1.00  0.21     N
ATOM   1800  CA  VAL A 115     5.368  62.043  33.098  1.00  0.21     C
ATOM   1801  C   VAL A 115     5.975  61.133  34.112  1.00  0.21     C
ATOM   1802  O   VAL A 115     7.072  61.378  34.611  1.00  0.21     O
ATOM   1803  CB  VAL A 115     5.880  61.603  31.759  1.00  0.21     C
ATOM   1804  CG1 VAL A 115     5.413  60.158  31.508  1.00  0.21     C
ATOM   1805  CG2 VAL A 115     5.402  62.604  30.694  1.00  0.21     C
ATOM   1806  H   VAL A 115     6.699  63.523  33.725  1.00  0.00     H
ATOM   1807  HA  VAL A 115     4.271  61.948  33.117  1.00  0.00     H
ATOM   1808  HB  VAL A 115     6.981  61.596  31.744  1.00  0.00     H
ATOM   1809 1HG1 VAL A 115     5.622  59.852  30.468  1.00  0.00     H
ATOM   1810 2HG1 VAL A 115     5.940  59.432  32.142  1.00  0.00     H
ATOM   1811 3HG1 VAL A 115     4.326  60.047  31.656  1.00  0.00     H
ATOM   1812 1HG2 VAL A 115     6.242  63.234  30.360  1.00  0.00     H
ATOM   1813 2HG2 VAL A 115     5.022  62.106  29.788  1.00  0.00     H
ATOM   1814 3HG2 VAL A 115     4.626  63.295  31.037  1.00  0.00     H
ATOM   1815  N   TYR A 116     5.249  60.058  34.455  1.00  0.44     N
ATOM   1816  CA  TYR A 116     5.738  59.110  35.407  1.00  0.44     C
ATOM   1817  C   TYR A 116     5.192  57.784  34.997  1.00  0.44     C
ATOM   1818  O   TYR A 116     4.387  57.702  34.070  1.00  0.44     O
ATOM   1819  CB  TYR A 116     5.271  59.408  36.836  1.00  0.44     C
ATOM   1820  CG  TYR A 116     3.794  59.519  36.746  1.00  0.44     C
ATOM   1821  CD1 TYR A 116     2.990  58.419  36.891  1.00  0.44     C
ATOM   1822  CD2 TYR A 116     3.215  60.735  36.486  1.00  0.44     C
ATOM   1823  CE1 TYR A 116     1.624  58.535  36.797  1.00  0.44     C
ATOM   1824  CE2 TYR A 116     1.851  60.859  36.391  1.00  0.44     C
ATOM   1825  CZ  TYR A 116     1.050  59.757  36.548  1.00  0.44     C
ATOM   1826  OH  TYR A 116    -0.352  59.883  36.451  1.00  0.44     O
ATOM   1827  H   TYR A 116     4.338  59.869  34.060  1.00  0.00     H
ATOM   1828  HA  TYR A 116     6.838  59.072  35.343  1.00  0.00     H
ATOM   1829 1HB  TYR A 116     5.732  60.345  37.186  1.00  0.00     H
ATOM   1830 2HB  TYR A 116     5.607  58.618  37.523  1.00  0.00     H
ATOM   1831  HD1 TYR A 116     3.439  57.467  37.135  1.00  0.00     H
ATOM   1832  HD2 TYR A 116     3.838  61.619  36.358  1.00  0.00     H
ATOM   1833  HE1 TYR A 116     0.986  57.727  37.108  1.00  0.00     H
ATOM   1834  HE2 TYR A 116     1.421  61.836  36.180  1.00  0.00     H
ATOM   1835  HH  TYR A 116    -0.572  60.683  35.940  1.00  0.00     H
ATOM   1836  N   LYS A 117     5.625  56.712  35.689  1.00  0.45     N
ATOM   1837  CA  LYS A 117     5.196  55.380  35.366  1.00  0.45     C
ATOM   1838  C   LYS A 117     5.361  55.152  33.903  1.00  0.45     C
ATOM   1839  O   LYS A 117     4.381  54.992  33.177  1.00  0.45     O
ATOM   1840  CB  LYS A 117     3.732  55.063  35.716  1.00  0.45     C
ATOM   1841  CG  LYS A 117     3.486  54.831  37.205  1.00  0.45     C
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ATOM   1842  CD  LYS A 117     2.021  54.552  37.540  1.00  0.45    C
ATOM   1843  CE  LYS A 117     1.803  54.093  38.982  1.00  0.45    C
ATOM   1844  NZ  LYS A 117     1.648  55.268  39.868  1.00  0.45    N1+
ATOM   1845  H   LYS A 117     6.471  56.822  36.234  1.00  0.00    H
ATOM   1846  HA  LYS A 117     5.857  54.686  35.905  1.00  0.00    H
ATOM   1847 1HB  LYS A 117     3.423  54.134  35.202  1.00  0.00    H
ATOM   1848 2HB  LYS A 117     3.072  55.855  35.321  1.00  0.00    H
ATOM   1849 1HG  LYS A 117     4.032  55.470  37.906  1.00  0.00    H
ATOM   1850 2HG  LYS A 117     3.730  53.803  37.280  1.00  0.00    H
ATOM   1851 1HD  LYS A 117     1.662  53.770  36.846  1.00  0.00    H
ATOM   1852 2HD  LYS A 117     1.404  55.440  37.399  1.00  0.00    H
ATOM   1853 1HE  LYS A 117     2.615  53.456  39.361  1.00  0.00    H
ATOM   1854 2HE  LYS A 117     0.875  53.505  39.082  1.00  0.00    H
ATOM   1855 1HZ  LYS A 117     1.542  55.010  40.843  1.00  0.00    H
ATOM   1856 2HZ  LYS A 117     2.458  55.876  39.832  1.00  0.00    H
ATOM   1857 3HZ  LYS A 117     0.847  55.842  39.642  1.00  0.00    H
ATOM   1858  N   VAL A 118     6.621  55.134  33.433  1.00  0.21    N
ATOM   1859  CA  VAL A 118     6.873  54.949  32.037  1.00  0.21    C
ATOM   1860  C   VAL A 118     7.212  53.512  31.806  1.00  0.21    C
ATOM   1861  O   VAL A 118     7.958  52.902  32.569  1.00  0.21    O
ATOM   1862  CB  VAL A 118     8.032  55.762  31.546  1.00  0.21    C
ATOM   1863  CG1 VAL A 118     8.313  55.380  30.088  1.00  0.21    C
ATOM   1864  CG2 VAL A 118     7.708  57.251  31.749  1.00  0.21    C
ATOM   1865  H   VAL A 118     7.436  55.211  34.029  1.00  0.00    H
ATOM   1866  HA  VAL A 118     5.985  55.278  31.488  1.00  0.00    H
ATOM   1867  HB  VAL A 118     8.930  55.521  32.142  1.00  0.00    H
ATOM   1868 1HG1 VAL A 118     9.125  56.011  29.696  1.00  0.00    H
ATOM   1869 2HG1 VAL A 118     8.627  54.336  29.946  1.00  0.00    H
ATOM   1870 3HG1 VAL A 118     7.399  55.589  29.526  1.00  0.00    H
ATOM   1871 1HG2 VAL A 118     8.495  57.906  31.341  1.00  0.00    H
ATOM   1872 2HG2 VAL A 118     6.771  57.514  31.231  1.00  0.00    H
ATOM   1873 3HG2 VAL A 118     7.597  57.515  32.814  1.00  0.00    H
ATOM   1874  N   ILE A 119     6.636  52.922  30.739  1.00  0.09    N
ATOM   1875  CA  ILE A 119     6.937  51.557  30.434  1.00  0.09    C
ATOM   1876  C   ILE A 119     7.363  51.496  29.005  1.00  0.09    C
ATOM   1877  O   ILE A 119     6.814  52.188  28.149  1.00  0.09    O
ATOM   1878  CB  ILE A 119     5.765  50.634  30.583  1.00  0.09    C
ATOM   1879  CG1 ILE A 119     5.244  50.662  32.028  1.00  0.09    C
ATOM   1880  CG2 ILE A 119     6.202  49.239  30.108  1.00  0.09    C
ATOM   1881  CD1 ILE A 119     3.887  49.980  32.199  1.00  0.09    C
ATOM   1882  H   ILE A 119     6.019  53.432  30.114  1.00  0.00    H
ATOM   1883  HA  ILE A 119     7.753  51.208  31.079  1.00  0.00    H
ATOM   1884  HB  ILE A 119     4.974  50.986  29.918  1.00  0.00    H
ATOM   1885 1HG1 ILE A 119     5.127  51.696  32.388  1.00  0.00    H
ATOM   1886 2HG1 ILE A 119     5.962  50.087  32.618  1.00  0.00    H
ATOM   1887 1HG2 ILE A 119     5.476  48.458  30.381  1.00  0.00    H
ATOM   1888 2HG2 ILE A 119     6.342  49.174  29.021  1.00  0.00    H
ATOM   1889 3HG2 ILE A 119     7.135  48.928  30.599  1.00  0.00    H
ATOM   1890 1HD1 ILE A 119     3.583  50.024  33.259  1.00  0.00    H
ATOM   1891 2HD1 ILE A 119     3.096  50.494  31.635  1.00  0.00    H
ATOM   1892 3HD1 ILE A 119     3.917  48.912  31.939  1.00  0.00    H
ATOM   1893  N   TYR A 120     8.383  50.666  28.722  1.00  0.09    N
ATOM   1894  CA  TYR A 120     8.837  50.488  27.377  1.00  0.09    C
ATOM   1895  C   TYR A 120     8.350  49.159  26.923  1.00  0.09    C
ATOM   1896  O   TYR A 120     8.418  48.175  27.658  1.00  0.09    O
ATOM   1897  CB  TYR A 120    10.367  50.494  27.212  1.00  0.09    C
ATOM   1898  CG  TYR A 120    10.850  51.903  27.189  1.00  0.09    C
ATOM   1899  CD1 TYR A 120    11.051  52.631  28.339  1.00  0.09    C
ATOM   1900  CD2 TYR A 120    11.111  52.492  25.973  1.00  0.09    C
ATOM   1901  CE1 TYR A 120    11.504  53.929  28.266  1.00  0.09    C
ATOM   1902  CE2 TYR A 120    11.563  53.785  25.893  1.00  0.09    C
ATOM   1903  CZ  TYR A 120    11.761  54.505  27.043  1.00  0.09    C
ATOM   1904  OH  TYR A 120    12.226  55.832  26.949  1.00  0.09    O
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ATOM   1905  H   TYR A 120     8.765  50.046  29.425  1.00  0.00     H
ATOM   1906  HA  TYR A 120     8.416  51.282  26.738  1.00  0.00     H
ATOM   1907 1HB  TYR A 120    10.609  49.990  26.261  1.00  0.00     H
ATOM   1908 2HB  TYR A 120    10.841  49.895  28.003  1.00  0.00     H
ATOM   1909  HD1 TYR A 120    10.804  52.180  29.294  1.00  0.00     H
ATOM   1910  HD2 TYR A 120    10.959  51.928  25.055  1.00  0.00     H
ATOM   1911  HE1 TYR A 120    11.635  54.510  29.175  1.00  0.00     H
ATOM   1912  HE2 TYR A 120    11.814  54.215  24.941  1.00  0.00     H
ATOM   1913  HH  TYR A 120    11.980  56.270  27.778  1.00  0.00     H
ATOM   1914  N   TYR A 121     7.816  49.106  25.689  1.00  0.18     N
ATOM   1915  CA  TYR A 121     7.302  47.867  25.199  1.00  0.18     C
ATOM   1916  C   TYR A 121     8.013  47.542  23.925  1.00  0.18     C
ATOM   1917  O   TYR A 121     8.291  48.417  23.108  1.00  0.18     O
ATOM   1918  CB  TYR A 121     5.803  47.929  24.877  1.00  0.18     C
ATOM   1919  CG  TYR A 121     5.083  48.219  26.150  1.00  0.18     C
ATOM   1920  CD1 TYR A 121     4.694  47.198  26.987  1.00  0.18     C
ATOM   1921  CD2 TYR A 121     4.800  49.517  26.509  1.00  0.18     C
ATOM   1922  CE1 TYR A 121     4.028  47.469  28.160  1.00  0.18     C
ATOM   1923  CE2 TYR A 121     4.134  49.792  27.679  1.00  0.18     C
ATOM   1924  CZ  TYR A 121     3.744  48.768  28.506  1.00  0.18     C
ATOM   1925  OH  TYR A 121     3.059  49.051  29.707  1.00  0.18     O
ATOM   1926  H   TYR A 121     7.631  49.920  25.112  1.00  0.00     H
ATOM   1927  HA  TYR A 121     7.436  47.107  25.959  1.00  0.00     H
ATOM   1928 1HB  TYR A 121     5.532  46.953  24.447  1.00  0.00     H
ATOM   1929 2HB  TYR A 121     5.646  48.703  24.116  1.00  0.00     H
ATOM   1930  HD1 TYR A 121     4.897  46.165  26.711  1.00  0.00     H
ATOM   1931  HD2 TYR A 121     5.098  50.334  25.859  1.00  0.00     H
ATOM   1932  HE1 TYR A 121     3.695  46.652  28.797  1.00  0.00     H
ATOM   1933  HE2 TYR A 121     4.048  50.841  27.783  1.00  0.00     H
ATOM   1934  HH  TYR A 121     2.599  49.887  29.539  1.00  0.00     H
ATOM   1935  N   LYS A 122     8.347  46.249  23.757  1.00  0.28     N
ATOM   1936  CA  LYS A 122     9.000  45.727  22.598  1.00  0.28     C
ATOM   1937  C   LYS A 122     8.109  44.630  22.126  1.00  0.28     C
ATOM   1938  O   LYS A 122     7.986  43.602  22.790  1.00  0.28     O
ATOM   1939  CB  LYS A 122    10.349  45.062  22.933  1.00  0.28     C
ATOM   1940  CG  LYS A 122    11.176  44.623  21.722  1.00  0.28     C
ATOM   1941  CD  LYS A 122    12.535  44.030  22.111  1.00  0.28     C
ATOM   1942  CE  LYS A 122    13.183  44.715  23.316  1.00  0.28     C
ATOM   1943  NZ  LYS A 122    14.483  44.075  23.628  1.00  0.28     N1+
ATOM   1944  H   LYS A 122     8.145  45.567  24.483  1.00  0.00     H
ATOM   1945  HA  LYS A 122     9.164  46.528  21.864  1.00  0.00     H
ATOM   1946 1HB  LYS A 122    10.242  44.240  23.659  1.00  0.00     H
ATOM   1947 2HB  LYS A 122    10.988  45.835  23.342  1.00  0.00     H
ATOM   1948 1HG  LYS A 122    11.311  45.492  21.057  1.00  0.00     H
ATOM   1949 2HG  LYS A 122    10.623  43.882  21.114  1.00  0.00     H
ATOM   1950 1HD  LYS A 122    13.201  44.012  21.232  1.00  0.00     H
ATOM   1951 2HD  LYS A 122    12.369  42.972  22.385  1.00  0.00     H
ATOM   1952 1HE  LYS A 122    12.551  44.547  24.190  1.00  0.00     H
ATOM   1953 2HE  LYS A 122    13.425  45.746  23.185  1.00  0.00     H
ATOM   1954 1HZ  LYS A 122    14.925  44.473  24.445  1.00  0.00     H
ATOM   1955 2HZ  LYS A 122    14.393  43.081  23.789  1.00  0.00     H
ATOM   1956 3HZ  LYS A 122    15.133  44.201  22.860  1.00  0.00     H
ATOM   1957  N   ASP A 123     7.464  44.826  20.965  1.00  0.20     N
ATOM   1958  CA  ASP A 123     6.591  43.826  20.428  1.00  0.20     C
ATOM   1959  C   ASP A 123     5.595  43.429  21.470  1.00  0.20     C
ATOM   1960  O   ASP A 123     5.193  42.269  21.556  1.00  0.20     O
ATOM   1961  CB  ASP A 123     7.339  42.593  19.901  1.00  0.20     C
ATOM   1962  CG  ASP A 123     8.044  43.045  18.631  1.00  0.20     C
ATOM   1963  OD1 ASP A 123     7.553  44.021  18.001  1.00  0.20     O
ATOM   1964  OD2 ASP A 123     9.081  42.430  18.274  1.00  0.20     O1-
ATOM   1965  H   ASP A 123     7.666  45.628  20.369  1.00  0.00     H
ATOM   1966  HA  ASP A 123     5.968  44.289  19.639  1.00  0.00     H
ATOM   1967 1HB  ASP A 123     6.613  41.815  19.612  1.00  0.00     H
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ATOM   1968 2HB  ASP A 123     8.032  42.140  20.623  1.00  0.00     H
ATOM   1969  N   GLY A 124     5.173  44.404  22.296  1.00  0.17     N
ATOM   1970  CA  GLY A 124     4.147  44.159  23.266  1.00  0.17     C
ATOM   1971  C   GLY A 124     4.739  43.612  24.523  1.00  0.17     C
ATOM   1972  O   GLY A 124     4.011  43.266  25.454  1.00  0.17     O
ATOM   1973  H   GLY A 124     5.538  45.337  22.192  1.00  0.00     H
ATOM   1974 1HA  GLY A 124     3.420  43.428  22.877  1.00  0.00     H
ATOM   1975 2HA  GLY A 124     3.606  45.080  23.485  1.00  0.00     H
ATOM   1976  N   GLU A 125     6.076  43.516  24.601  1.00  0.24     N
ATOM   1977  CA  GLU A 125     6.638  42.987  25.806  1.00  0.24     C
ATOM   1978  C   GLU A 125     7.229  44.137  26.552  1.00  0.24     C
ATOM   1979  O   GLU A 125     7.934  44.962  25.980  1.00  0.24     O
ATOM   1980  CB  GLU A 125     7.747  41.958  25.550  1.00  0.24     C
ATOM   1981  CG  GLU A 125     8.099  41.137  26.785  1.00  0.24     C
ATOM   1982  CD  GLU A 125     9.183  40.146  26.392  1.00  0.24     C
ATOM   1983  OE1 GLU A 125    10.013  40.500  25.512  1.00  0.24     O
ATOM   1984  OE2 GLU A 125     9.192  39.023  26.962  1.00  0.24     O1-
ATOM   1985  H   GLU A 125     6.662  43.562  23.773  1.00  0.00     H
ATOM   1986  HA  GLU A 125     5.870  42.467  26.400  1.00  0.00     H
ATOM   1987 1HB  GLU A 125     8.638  42.476  25.156  1.00  0.00     H
ATOM   1988 2HB  GLU A 125     7.408  41.267  24.755  1.00  0.00     H
ATOM   1989 1HG  GLU A 125     7.225  40.613  27.203  1.00  0.00     H
ATOM   1990 2HG  GLU A 125     8.494  41.789  27.582  1.00  0.00     H
ATOM   1991  N   ALA A 126     6.967  44.237  27.865  1.00  0.26     N
ATOM   1992  CA  ALA A 126     7.483  45.377  28.563  1.00  0.26     C
ATOM   1993  C   ALA A 126     8.923  45.129  28.870  1.00  0.26     C
ATOM   1994  O   ALA A 126     9.257  44.250  29.662  1.00  0.26     O
ATOM   1995  CB  ALA A 126     6.771  45.654  29.898  1.00  0.26     C
ATOM   1996  H   ALA A 126     6.357  43.601  28.352  1.00  0.00     H
ATOM   1997  HA  ALA A 126     7.283  46.254  27.943  1.00  0.00     H
ATOM   1998 1HB  ALA A 126     7.244  46.526  30.375  1.00  0.00     H
ATOM   1999 2HB  ALA A 126     5.708  45.881  29.733  1.00  0.00     H
ATOM   2000 3HB  ALA A 126     6.836  44.803  30.593  1.00  0.00     H
ATOM   2001  N   LEU A 127     9.819  45.889  28.210  1.00  0.39     N
ATOM   2002  CA  LEU A 127    11.223  45.746  28.455  1.00  0.39     C
ATOM   2003  C   LEU A 127    11.504  46.207  29.846  1.00  0.39     C
ATOM   2004  O   LEU A 127    12.150  45.505  30.622  1.00  0.39     O
ATOM   2005  CB  LEU A 127    12.082  46.623  27.532  1.00  0.39     C
ATOM   2006  CG  LEU A 127    11.973  46.250  26.046  1.00  0.39     C
ATOM   2007  CD1 LEU A 127    10.541  46.453  25.527  1.00  0.39     C
ATOM   2008  CD2 LEU A 127    13.021  47.001  25.210  1.00  0.39     C
ATOM   2009  H   LEU A 127     9.483  46.608  27.583  1.00  0.00     H
ATOM   2010  HA  LEU A 127    11.516  44.689  28.359  1.00  0.00     H
ATOM   2011 1HB  LEU A 127    13.130  46.502  27.866  1.00  0.00     H
ATOM   2012 2HB  LEU A 127    11.833  47.689  27.665  1.00  0.00     H
ATOM   2013  HG  LEU A 127    12.195  45.170  26.006  1.00  0.00     H
ATOM   2014 1HD1 LEU A 127    10.536  47.074  24.623  1.00  0.00     H
ATOM   2015 2HD1 LEU A 127    10.073  45.481  25.396  1.00  0.00     H
ATOM   2016 3HD1 LEU A 127     9.942  47.094  26.169  1.00  0.00     H
ATOM   2017 1HD2 LEU A 127    12.582  46.866  24.252  1.00  0.00     H
ATOM   2018 2HD2 LEU A 127    13.035  48.076  25.442  1.00  0.00     H
ATOM   2019 3HD2 LEU A 127    14.037  46.592  25.281  1.00  0.00     H
ATOM   2020  N   LYS A 128    11.008  47.409  30.209  1.00  0.43     N
ATOM   2021  CA  LYS A 128    11.294  47.881  31.530  1.00  0.43     C
ATOM   2022  C   LYS A 128    10.216  48.824  31.948  1.00  0.43     C
ATOM   2023  O   LYS A 128     9.524  49.417  31.122  1.00  0.43     O
ATOM   2024  CB  LYS A 128    12.614  48.659  31.641  1.00  0.43     C
ATOM   2025  CG  LYS A 128    12.560  50.028  30.960  1.00  0.43     C
ATOM   2026  CD  LYS A 128    13.718  50.948  31.350  1.00  0.43     C
ATOM   2027  CE  LYS A 128    13.540  52.388  30.872  1.00  0.43     C
ATOM   2028  NZ  LYS A 128    12.447  53.031  31.635  1.00  0.43     N1+
ATOM   2029  H   LYS A 128    10.328  47.889  29.646  1.00  0.00     H
ATOM   2030  HA  LYS A 128    11.296  47.023  32.227  1.00  0.00     H
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ATOM   2031 1HB  LYS A 128    13.445  48.056  31.235  1.00  0.00      H
ATOM   2032 2HB  LYS A 128    12.825  48.793  32.717  1.00  0.00      H
ATOM   2033 1HG  LYS A 128    11.647  50.560  31.271  1.00  0.00      H
ATOM   2034 2HG  LYS A 128    12.473  49.888  29.880  1.00  0.00      H
ATOM   2035 1HD  LYS A 128    14.667  50.553  30.950  1.00  0.00      H
ATOM   2036 2HD  LYS A 128    13.841  50.944  32.449  1.00  0.00      H
ATOM   2037 1HE  LYS A 128    13.239  52.423  29.841  1.00  0.00      H
ATOM   2038 2HE  LYS A 128    14.468  52.924  31.072  1.00  0.00      H
ATOM   2039 1HZ  LYS A 128    12.368  54.022  31.429  1.00  0.00      H
ATOM   2040 2HZ  LYS A 128    11.541  52.625  31.442  1.00  0.00      H
ATOM   2041 3HZ  LYS A 128    12.593  52.977  32.634  1.00  0.00      H
ATOM   2042  N   TYR A 129    10.043  48.960  33.275  1.00  0.26      N
ATOM   2043  CA  TYR A 129     9.095  49.877  33.832  1.00  0.26      C
ATOM   2044  C   TYR A 129     9.784  50.604  34.940  1.00  0.26      C
ATOM   2045  O   TYR A 129    10.405  49.987  35.803  1.00  0.26      O
ATOM   2046  CB  TYR A 129     7.861  49.183  34.435  1.00  0.26      C
ATOM   2047  CG  TYR A 129     7.171  50.160  35.325  1.00  0.26      C
ATOM   2048  CD1 TYR A 129     6.375  51.165  34.823  1.00  0.26      C
ATOM   2049  CD2 TYR A 129     7.327  50.051  36.687  1.00  0.26      C
ATOM   2050  CE1 TYR A 129     5.750  52.050  35.674  1.00  0.26      C
ATOM   2051  CE2 TYR A 129     6.707  50.930  37.540  1.00  0.26      C
ATOM   2052  CZ  TYR A 129     5.916  51.931  37.035  1.00  0.26      C
ATOM   2053  OH  TYR A 129     5.283  52.830  37.916  1.00  0.26      O
ATOM   2054  H   TYR A 129    10.608  48.473  33.952  1.00  0.00      H
ATOM   2055  HA  TYR A 129     8.771  50.575  33.049  1.00  0.00      H
ATOM   2056 1HB  TYR A 129     8.174  48.298  35.013  1.00  0.00      H
ATOM   2057 2HB  TYR A 129     7.213  48.793  33.637  1.00  0.00      H
ATOM   2058  HD1 TYR A 129     6.455  51.455  33.799  1.00  0.00      H
ATOM   2059  HD2 TYR A 129     7.952  49.261  37.097  1.00  0.00      H
ATOM   2060  HE1 TYR A 129     5.114  52.806  35.239  1.00  0.00      H
ATOM   2061  HE2 TYR A 129     6.841  50.791  38.607  1.00  0.00      H
ATOM   2062  HH  TYR A 129     5.829  52.879  38.713  1.00  0.00      H
ATOM   2063  N   TRP A 130     9.712  51.950  34.931  1.00  0.16      N
ATOM   2064  CA  TRP A 130    10.311  52.685  36.006  1.00  0.16      C
ATOM   2065  C   TRP A 130     9.437  53.879  36.219  1.00  0.16      C
ATOM   2066  O   TRP A 130     8.929  54.461  35.261  1.00  0.16      O
ATOM   2067  CB  TRP A 130    11.716  53.211  35.683  1.00  0.16      C
ATOM   2068  CG  TRP A 130    12.467  53.739  36.882  1.00  0.16      C
ATOM   2069  CD1 TRP A 130    12.409  54.960  37.486  1.00  0.16      C
ATOM   2070  CD2 TRP A 130    13.463  52.984  37.588  1.00  0.16      C
ATOM   2071  NE1 TRP A 130    13.299  55.007  38.532  1.00  0.16      N
ATOM   2072  CE2 TRP A 130    13.957  53.800  38.603  1.00  0.16      C
ATOM   2073  CE3 TRP A 130    13.932  51.715  37.402  1.00  0.16      C
ATOM   2074  CZ2 TRP A 130    14.932  53.360  39.452  1.00  0.16      C
ATOM   2075  CZ3 TRP A 130    14.913  51.273  38.264  1.00  0.16      C
ATOM   2076  CH2 TRP A 130    15.404  52.079  39.270  1.00  0.16      C
ATOM   2077  H   TRP A 130     9.109  52.460  34.292  1.00  0.00      H
ATOM   2078  HA  TRP A 130    10.329  52.061  36.916  1.00  0.00      H
ATOM   2079 1HB  TRP A 130    11.622  53.988  34.909  1.00  0.00      H
ATOM   2080 2HB  TRP A 130    12.306  52.403  35.220  1.00  0.00      H
ATOM   2081  HD1 TRP A 130    11.643  55.612  37.343  1.00  0.00      H
ATOM   2082  HE1 TRP A 130    13.577  55.818  39.058  1.00  0.00      H
ATOM   2083  HE3 TRP A 130    13.550  51.063  36.623  1.00  0.00      H
ATOM   2084  HZ2 TRP A 130    15.318  54.001  40.242  1.00  0.00      H
ATOM   2085  HZ3 TRP A 130    15.309  50.266  38.152  1.00  0.00      H
ATOM   2086  HH2 TRP A 130    16.179  51.696  39.930  1.00  0.00      H
ATOM   2087  N   TYR A 131     9.204  54.267  37.487  1.00  0.17      N
ATOM   2088  CA  TYR A 131     8.351  55.401  37.683  1.00  0.17      C
ATOM   2089  C   TYR A 131     8.991  56.631  37.120  1.00  0.17      C
ATOM   2090  O   TYR A 131     8.436  57.284  36.238  1.00  0.17      O
ATOM   2091  CB  TYR A 131     8.087  55.714  39.164  1.00  0.17      C
ATOM   2092  CG  TYR A 131     7.166  54.693  39.731  1.00  0.17      C
ATOM   2093  CD1 TYR A 131     7.617  53.438  40.072  1.00  0.17      C
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ATOM   2094  CD2 TYR A 131     5.844  55.009  39.937  1.00  0.17      C
ATOM   2095  CE1 TYR A 131     6.754  52.508  40.602  1.00  0.17      C
ATOM   2096  CE2 TYR A 131     4.977  54.084  40.465  1.00  0.17      C
ATOM   2097  CZ  TYR A 131     5.433  52.832  40.800  1.00  0.17      C
ATOM   2098  OH  TYR A 131     4.542  51.882  41.345  1.00  0.17      O
ATOM   2099  H   TYR A 131     9.634  53.823  38.280  1.00  0.00      H
ATOM   2100  HA  TYR A 131     7.395  55.233  37.177  1.00  0.00      H
ATOM   2101 1HB  TYR A 131     7.635  56.719  39.216  1.00  0.00      H
ATOM   2102 2HB  TYR A 131     9.022  55.767  39.746  1.00  0.00      H
ATOM   2103  HD1 TYR A 131     8.667  53.180  39.973  1.00  0.00      H
ATOM   2104  HD2 TYR A 131     5.494  56.012  39.704  1.00  0.00      H
ATOM   2105  HE1 TYR A 131     7.138  51.529  40.884  1.00  0.00      H
ATOM   2106  HE2 TYR A 131     3.963  54.370  40.710  1.00  0.00      H
ATOM   2107  HH  TYR A 131     5.048  51.342  41.965  1.00  0.00      H
ATOM   2108  N   GLU A 132    10.189  56.977  37.630  1.00  0.19      N
ATOM   2109  CA  GLU A 132    10.842  58.196  37.249  1.00  0.19      C
ATOM   2110  C   GLU A 132    11.520  58.139  35.909  1.00  0.19      C
ATOM   2111  O   GLU A 132    11.501  59.125  35.175  1.00  0.19      O
ATOM   2112  CB  GLU A 132    11.851  58.705  38.295  1.00  0.19      C
ATOM   2113  CG  GLU A 132    13.030  57.774  38.565  1.00  0.19      C
ATOM   2114  CD  GLU A 132    13.838  58.387  39.702  1.00  0.19      C
ATOM   2115  OE1 GLU A 132    14.098  59.618  39.651  1.00  0.19      O
ATOM   2116  OE2 GLU A 132    14.202  57.630  40.641  1.00  0.19      O1-
ATOM   2117  H   GLU A 132    10.574  56.510  38.434  1.00  0.00      H
ATOM   2118  HA  GLU A 132    10.066  58.975  37.149  1.00  0.00      H
ATOM   2119 1HB  GLU A 132    11.321  58.901  39.245  1.00  0.00      H
ATOM   2120 2HB  GLU A 132    12.189  59.689  37.919  1.00  0.00      H
ATOM   2121 1HG  GLU A 132    13.639  57.522  37.692  1.00  0.00      H
ATOM   2122 2HG  GLU A 132    12.498  56.967  39.059  1.00  0.00      H
ATOM   2123  N   ASN A 133    12.116  56.988  35.539  1.00  0.18      N
ATOM   2124  CA  ASN A 133    12.974  56.963  34.382  1.00  0.18      C
ATOM   2125  C   ASN A 133    12.209  57.009  33.098  1.00  0.18      C
ATOM   2126  O   ASN A 133    11.487  56.080  32.738  1.00  0.18      O
ATOM   2127  CB  ASN A 133    13.907  55.737  34.320  1.00  0.18      C
ATOM   2128  CG  ASN A 133    14.988  56.023  33.284  1.00  0.18      C
ATOM   2129  OD1 ASN A 133    14.893  56.984  32.522  1.00  0.18      O
ATOM   2130  ND2 ASN A 133    16.041  55.162  33.248  1.00  0.18      N
ATOM   2131  H   ASN A 133    12.152  56.184  36.126  1.00  0.00      H
ATOM   2132  HA  ASN A 133    13.641  57.843  34.482  1.00  0.00      H
ATOM   2133 1HB  ASN A 133    13.387  54.810  34.048  1.00  0.00      H
ATOM   2134 2HB  ASN A 133    14.388  55.588  35.302  1.00  0.00      H
ATOM   2135 1HD2 ASN A 133    16.149  54.411  33.904  1.00  0.00      H
ATOM   2136 2HD2 ASN A 133    16.735  55.326  32.538  1.00  0.00      H
ATOM   2137  N   HIS A 134    12.358  58.148  32.393  1.00  0.16      N
ATOM   2138  CA  HIS A 134    11.782  58.440  31.111  1.00  0.16      C
ATOM   2139  C   HIS A 134    12.510  57.713  30.020  1.00  0.16      C
ATOM   2140  O   HIS A 134    11.908  57.336  29.016  1.00  0.16      O
ATOM   2141  CB  HIS A 134    11.845  59.939  30.781  1.00  0.16      C
ATOM   2142  CG  HIS A 134    11.133  60.773  31.803  1.00  0.16      C
ATOM   2143  ND1 HIS A 134     9.767  60.954  31.837  1.00  0.16      N
ATOM   2144  CD2 HIS A 134    11.627  61.476  32.858  1.00  0.16      C
ATOM   2145  CE1 HIS A 134     9.506  61.751  32.903  1.00  0.16      C
ATOM   2146  NE2 HIS A 134    10.603  62.094  33.554  1.00  0.16      N
ATOM   2147  H   HIS A 134    12.816  58.920  32.852  1.00  0.00      H
ATOM   2148  HA  HIS A 134    10.736  58.098  31.094  1.00  0.00      H
ATOM   2149 1HB  HIS A 134    11.406  60.080  29.778  1.00  0.00      H
ATOM   2150 2HB  HIS A 134    12.890  60.276  30.715  1.00  0.00      H
ATOM   2151  HD2 HIS A 134    12.657  61.578  33.175  1.00  0.00      H
ATOM   2152  HE1 HIS A 134     8.543  62.184  33.088  1.00  0.00      H
ATOM   2153  HE2 HIS A 134    10.667  62.639  34.389  1.00  0.00      H
ATOM   2154  N   ASN A 135    13.835  57.507  30.179  1.00  0.14      N
ATOM   2155  CA  ASN A 135    14.631  56.982  29.100  1.00  0.14      C
ATOM   2156  C   ASN A 135    14.941  55.534  29.306  1.00  0.14      C
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ATOM   2157  O   ASN A 135    14.867  55.010  30.416  1.00  0.14      O
ATOM   2158  CB  ASN A 135    15.986  57.690  28.963  1.00  0.14      C
ATOM   2159  CG  ASN A 135    15.720  59.156  28.665  1.00  0.14      C
ATOM   2160  OD1 ASN A 135    15.032  59.498  27.704  1.00  0.14      O
ATOM   2161  ND2 ASN A 135    16.270  60.053  29.528  1.00  0.14      N
ATOM   2162  H   ASN A 135    14.277  57.581  31.090  1.00  0.00      H
ATOM   2163  HA  ASN A 135    14.091  57.126  28.156  1.00  0.00      H
ATOM   2164 1HB  ASN A 135    16.465  57.199  28.112  1.00  0.00      H
ATOM   2165 2HB  ASN A 135    16.609  57.530  29.857  1.00  0.00      H
ATOM   2166 1HD2 ASN A 135    16.809  59.763  30.324  1.00  0.00      H
ATOM   2167 2HD2 ASN A 135    16.088  61.027  29.364  1.00  0.00      H
ATOM   2168  N   ILE A 136    15.270  54.846  28.190  1.00  0.19      N
ATOM   2169  CA  ILE A 136    15.665  53.467  28.207  1.00  0.19      C
ATOM   2170  C   ILE A 136    16.831  53.341  27.279  1.00  0.19      C
ATOM   2171  O   ILE A 136    16.909  54.042  26.272  1.00  0.19      O
ATOM   2172  CB  ILE A 136    14.612  52.529  27.694  1.00  0.19      C
ATOM   2173  CG1 ILE A 136    15.014  51.070  27.966  1.00  0.19      C
ATOM   2174  CG2 ILE A 136    14.381  52.844  26.207  1.00  0.19      C
ATOM   2175  CD1 ILE A 136    13.874  50.077  27.751  1.00  0.19      C
ATOM   2176  H   ILE A 136    15.312  55.307  27.283  1.00  0.00      H
ATOM   2177  HA  ILE A 136    15.976  53.214  29.234  1.00  0.00      H
ATOM   2178  HB  ILE A 136    13.653  52.762  28.141  1.00  0.00      H
ATOM   2179 1HG1 ILE A 136    15.391  50.970  28.996  1.00  0.00      H
ATOM   2180 2HG1 ILE A 136    15.848  50.770  27.308  1.00  0.00      H
ATOM   2181 1HG2 ILE A 136    13.544  52.256  25.812  1.00  0.00      H
ATOM   2182 2HG2 ILE A 136    14.172  53.918  26.193  1.00  0.00      H
ATOM   2183 3HG2 ILE A 136    15.231  52.583  25.560  1.00  0.00      H
ATOM   2184 1HD1 ILE A 136    14.060  49.114  28.250  1.00  0.00      H
ATOM   2185 2HD1 ILE A 136    12.927  50.491  28.101  1.00  0.00      H
ATOM   2186 3HD1 ILE A 136    13.745  49.876  26.675  1.00  0.00      H
ATOM   2187  N   SER A 137    17.788  52.452  27.604  1.00  0.24      N
ATOM   2188  CA  SER A 137    18.920  52.298  26.741  1.00  0.24      C
ATOM   2189  C   SER A 137    19.203  50.837  26.610  1.00  0.24      C
ATOM   2190  O   SER A 137    19.102  50.085  27.577  1.00  0.24      O
ATOM   2191  CB  SER A 137    20.185  52.972  27.299  1.00  0.24      C
ATOM   2192  OG  SER A 137    21.276  52.795  26.411  1.00  0.24      O
ATOM   2193  H   SER A 137    17.731  51.800  28.369  1.00  0.00      H
ATOM   2194  HA  SER A 137    18.669  52.741  25.782  1.00  0.00      H
ATOM   2195 1HB  SER A 137    20.484  52.516  28.253  1.00  0.00      H
ATOM   2196 2HB  SER A 137    20.000  54.044  27.484  1.00  0.00      H
ATOM   2197  HG  SER A 137    20.990  53.121  25.543  1.00  0.00      H
ATOM   2198  N   ILE A 138    19.553  50.391  25.389  1.00  0.31      N
ATOM   2199  CA  ILE A 138    19.872  49.009  25.203  1.00  0.31      C
ATOM   2200  C   ILE A 138    21.299  48.973  24.779  1.00  0.31      C
ATOM   2201  O   ILE A 138    21.688  49.613  23.804  1.00  0.31      O
ATOM   2202  CB  ILE A 138    19.075  48.358  24.114  1.00  0.31      C
ATOM   2203  CG1 ILE A 138    17.571  48.461  24.424  1.00  0.31      C
ATOM   2204  CG2 ILE A 138    19.578  46.912  23.962  1.00  0.31      C
ATOM   2205  CD1 ILE A 138    16.674  48.147  23.229  1.00  0.31      C
ATOM   2206  H   ILE A 138    19.620  51.007  24.588  1.00  0.00      H
ATOM   2207  HA  ILE A 138    19.710  48.445  26.135  1.00  0.00      H
ATOM   2208  HB  ILE A 138    19.268  48.858  23.155  1.00  0.00      H
ATOM   2209 1HG1 ILE A 138    17.316  49.490  24.735  1.00  0.00      H
ATOM   2210 2HG1 ILE A 138    17.309  47.817  25.281  1.00  0.00      H
ATOM   2211 1HG2 ILE A 138    18.854  46.237  23.492  1.00  0.00      H
ATOM   2212 2HG2 ILE A 138    20.505  46.865  23.369  1.00  0.00      H
ATOM   2213 3HG2 ILE A 138    19.788  46.455  24.944  1.00  0.00      H
ATOM   2214 1HD1 ILE A 138    15.696  48.643  23.340  1.00  0.00      H
ATOM   2215 2HD1 ILE A 138    17.111  48.502  22.288  1.00  0.00      H
ATOM   2216 3HD1 ILE A 138    16.456  47.073  23.163  1.00  0.00      H
ATOM   2217  N   THR A 139    22.134  48.214  25.502  1.00  0.40      N
ATOM   2218  CA  THR A 139    23.515  48.187  25.136  1.00  0.40      C
ATOM   2219  C   THR A 139    23.749  46.939  24.359  1.00  0.40      C
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ATOM   2220  O   THR A 139    23.036  45.952  24.535  1.00  0.40      O
ATOM   2221  CB  THR A 139    24.443  48.189  26.311  1.00  0.40      C
ATOM   2222  OG1 THR A 139    24.163  47.077  27.147  1.00  0.40      O
ATOM   2223  CG2 THR A 139    24.261  49.504  27.085  1.00  0.40      C
ATOM   2224  H   THR A 139    21.880  47.655  26.299  1.00  0.00      H
ATOM   2225  HA  THR A 139    23.767  49.068  24.524  1.00  0.00      H
ATOM   2226  HB  THR A 139    25.487  48.132  25.945  1.00  0.00      H
ATOM   2227  HG1 THR A 139    24.393  46.277  26.647  1.00  0.00      H
ATOM   2228 1HG2 THR A 139    24.974  49.573  27.923  1.00  0.00      H
ATOM   2229 2HG2 THR A 139    24.422  50.381  26.437  1.00  0.00      H
ATOM   2230 3HG2 THR A 139    23.249  49.577  27.515  1.00  0.00      H
ATOM   2231  N   ASN A 140    24.763  46.972  23.470  1.00  0.29      N
ATOM   2232  CA  ASN A 140    25.086  45.844  22.647  1.00  0.29      C
ATOM   2233  C   ASN A 140    23.840  45.344  21.994  1.00  0.29      C
ATOM   2234  O   ASN A 140    23.385  44.235  22.272  1.00  0.29      O
ATOM   2235  CB  ASN A 140    25.727  44.681  23.423  1.00  0.29      C
ATOM   2236  CG  ASN A 140    27.131  45.102  23.832  1.00  0.29      C
ATOM   2237  OD1 ASN A 140    27.317  45.982  24.671  1.00  0.29      O
ATOM   2238  ND2 ASN A 140    28.154  44.447  23.222  1.00  0.29      N
ATOM   2239  H   ASN A 140    25.351  47.783  23.365  1.00  0.00      H
ATOM   2240  HA  ASN A 140    25.796  46.179  21.874  1.00  0.00      H
ATOM   2241 1HB  ASN A 140    25.766  43.791  22.770  1.00  0.00      H
ATOM   2242 2HB  ASN A 140    25.173  44.406  24.334  1.00  0.00      H
ATOM   2243 1HD2 ASN A 140    27.995  43.721  22.547  1.00  0.00      H
ATOM   2244 2HD2 ASN A 140    29.087  44.710  23.487  1.00  0.00      H
ATOM   2245  N   ALA A 141    23.250  46.167  21.107  1.00  0.26      N
ATOM   2246  CA  ALA A 141    22.029  45.798  20.453  1.00  0.26      C
ATOM   2247  C   ALA A 141    22.269  44.561  19.652  1.00  0.26      C
ATOM   2248  O   ALA A 141    23.383  44.293  19.206  1.00  0.26      O
ATOM   2249  CB  ALA A 141    21.490  46.878  19.499  1.00  0.26      C
ATOM   2250  H   ALA A 141    23.587  47.104  20.927  1.00  0.00      H
ATOM   2251  HA  ALA A 141    21.258  45.608  21.225  1.00  0.00      H
ATOM   2252 1HB  ALA A 141    20.549  46.526  19.046  1.00  0.00      H
ATOM   2253 2HB  ALA A 141    21.267  47.806  20.048  1.00  0.00      H
ATOM   2254 3HB  ALA A 141    22.201  47.104  18.690  1.00  0.00      H
ATOM   2255  N   THR A 142    21.198  43.763  19.475  1.00  0.35      N
ATOM   2256  CA  THR A 142    21.277  42.535  18.746  1.00  0.35      C
ATOM   2257  C   THR A 142    20.122  42.498  17.797  1.00  0.35      C
ATOM   2258  O   THR A 142    19.288  43.401  17.779  1.00  0.35      O
ATOM   2259  CB  THR A 142    21.175  41.319  19.617  1.00  0.35      C
ATOM   2260  OG1 THR A 142    21.424  40.145  18.859  1.00  0.35      O
ATOM   2261  CG2 THR A 142    19.764  41.270  20.230  1.00  0.35      C
ATOM   2262  H   THR A 142    20.268  44.072  19.709  1.00  0.00      H
ATOM   2263  HA  THR A 142    22.202  42.492  18.164  1.00  0.00      H
ATOM   2264  HB  THR A 142    21.924  41.382  20.430  1.00  0.00      H
ATOM   2265  HG1 THR A 142    20.924  39.425  19.314  1.00  0.00      H
ATOM   2266 1HG2 THR A 142    19.677  40.455  20.966  1.00  0.00      H
ATOM   2267 2HG2 THR A 142    19.545  42.189  20.799  1.00  0.00      H
ATOM   2268 3HG2 THR A 142    19.002  41.155  19.495  1.00  0.00      H
ATOM   2269  N   VAL A 143    20.067  41.439  16.968  1.00  0.29      N
ATOM   2270  CA  VAL A 143    19.038  41.271  15.985  1.00  0.29      C
ATOM   2271  C   VAL A 143    17.723  41.121  16.680  1.00  0.29      C
ATOM   2272  O   VAL A 143    16.696  41.601  16.203  1.00  0.29      O
ATOM   2273  CB  VAL A 143    19.256  40.063  15.127  1.00  0.29      C
ATOM   2274  CG1 VAL A 143    18.096  39.966  14.122  1.00  0.29      C
ATOM   2275  CG2 VAL A 143    20.644  40.180  14.470  1.00  0.29      C
ATOM   2276  H   VAL A 143    20.761  40.704  17.079  1.00  0.00      H
ATOM   2277  HA  VAL A 143    18.850  42.036  15.329  1.00  0.00      H
ATOM   2278  HB  VAL A 143    19.249  39.139  15.730  1.00  0.00      H
ATOM   2279 1HG1 VAL A 143    18.282  39.173  13.377  1.00  0.00      H
ATOM   2280 2HG1 VAL A 143    17.142  39.710  14.609  1.00  0.00      H
ATOM   2281 3HG1 VAL A 143    17.963  40.905  13.559  1.00  0.00      H
ATOM   2282 1HG2 VAL A 143    20.742  39.540  13.578  1.00  0.00      H
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ATOM   2283 2HG2 VAL A 143    20.859  41.210  14.167  1.00  0.00    H
ATOM   2284 3HG2 VAL A 143    21.447  39.879  15.163  1.00  0.00    H
ATOM   2285  N   GLU A 144    17.728  40.452  17.845  1.00  0.25    N
ATOM   2286  CA  GLU A 144    16.522  40.216  18.585  1.00  0.25    C
ATOM   2287  C   GLU A 144    15.953  41.542  18.969  1.00  0.25    C
ATOM   2288  O   GLU A 144    14.738  41.707  19.072  1.00  0.25    O
ATOM   2289  CB  GLU A 144    16.760  39.414  19.874  1.00  0.25    C
ATOM   2290  CG  GLU A 144    17.200  37.977  19.597  1.00  0.25    C
ATOM   2291  CD  GLU A 144    18.626  38.030  19.072  1.00  0.25    C
ATOM   2292  OE1 GLU A 144    19.542  38.318  19.886  1.00  0.25    O
ATOM   2293  OE2 GLU A 144    18.817  37.791  17.849  1.00  0.25    O1-
ATOM   2294  H   GLU A 144    18.487  39.800  18.039  1.00  0.00    H
ATOM   2295  HA  GLU A 144    15.773  39.697  17.962  1.00  0.00    H
ATOM   2296 1HB  GLU A 144    15.791  39.405  20.406  1.00  0.00    H
ATOM   2297 2HB  GLU A 144    17.460  39.925  20.552  1.00  0.00    H
ATOM   2298 1HG  GLU A 144    16.520  37.493  18.878  1.00  0.00    H
ATOM   2299 2HG  GLU A 144    17.181  37.402  20.537  1.00  0.00    H
ATOM   2300  N   ASP A 145    16.834  42.535  19.171  1.00  0.22    N
ATOM   2301  CA  ASP A 145    16.438  43.836  19.619  1.00  0.22    C
ATOM   2302  C   ASP A 145    15.451  44.418  18.657  1.00  0.22    C
ATOM   2303  O   ASP A 145    14.495  45.069  19.079  1.00  0.22    O
ATOM   2304  CB  ASP A 145    17.632  44.802  19.718  1.00  0.22    C
ATOM   2305  CG  ASP A 145    17.196  46.073  20.435  1.00  0.22    C
ATOM   2306  OD1 ASP A 145    16.201  46.706  19.992  1.00  0.22    O
ATOM   2307  OD2 ASP A 145    17.856  46.424  21.448  1.00  0.22    O1-
ATOM   2308  H   ASP A 145    17.800  42.416  18.901  1.00  0.00    H
ATOM   2309  HA  ASP A 145    15.940  43.745  20.598  1.00  0.00    H
ATOM   2310 1HB  ASP A 145    17.956  45.106  18.717  1.00  0.00    H
ATOM   2311 2HB  ASP A 145    18.467  44.343  20.264  1.00  0.00    H
ATOM   2312  N   SER A 146    15.638  44.196  17.341  1.00  0.20    N
ATOM   2313  CA  SER A 146    14.748  44.779  16.374  1.00  0.20    C
ATOM   2314  C   SER A 146    13.344  44.384  16.696  1.00  0.20    C
ATOM   2315  O   SER A 146    13.085  43.287  17.191  1.00  0.20    O
ATOM   2316  CB  SER A 146    15.037  44.343  14.926  1.00  0.20    C
ATOM   2317  OG  SER A 146    14.798  42.951  14.780  1.00  0.20    O
ATOM   2318  H   SER A 146    16.339  43.525  17.064  1.00  0.00    H
ATOM   2319  HA  SER A 146    14.867  45.875  16.450  1.00  0.00    H
ATOM   2320 1HB  SER A 146    16.065  44.568  14.651  1.00  0.00    H
ATOM   2321 2HB  SER A 146    14.320  44.815  14.248  1.00  0.00    H
ATOM   2322  HG  SER A 146    15.341  42.471  15.433  1.00  0.00    H
ATOM   2323  N   GLY A 147    12.394  45.305  16.442  1.00  0.21    N
ATOM   2324  CA  GLY A 147    11.020  45.025  16.735  1.00  0.21    C
ATOM   2325  C   GLY A 147    10.301  46.331  16.762  1.00  0.21    C
ATOM   2326  O   GLY A 147    10.814  47.349  16.299  1.00  0.21    O
ATOM   2327  H   GLY A 147    12.612  46.212  16.041  1.00  0.00    H
ATOM   2328 1HA  GLY A 147    10.941  44.526  17.716  1.00  0.00    H
ATOM   2329 2HA  GLY A 147    10.566  44.365  15.975  1.00  0.00    H
ATOM   2330  N   THR A 148     9.071  46.328  17.306  1.00  0.17    N
ATOM   2331  CA  THR A 148     8.323  47.544  17.360  1.00  0.17    C
ATOM   2332  C   THR A 148     8.332  47.996  18.779  1.00  0.17    C
ATOM   2333  O   THR A 148     8.106  47.205  19.694  1.00  0.17    O
ATOM   2334  CB  THR A 148     6.895  47.375  16.948  1.00  0.17    C
ATOM   2335  OG1 THR A 148     6.829  46.867  15.623  1.00  0.17    O
ATOM   2336  CG2 THR A 148     6.209  48.746  17.013  1.00  0.17    C
ATOM   2337  H   THR A 148     8.580  45.466  17.587  1.00  0.00    H
ATOM   2338  HA  THR A 148     8.769  48.280  16.678  1.00  0.00    H
ATOM   2339  HB  THR A 148     6.366  46.654  17.589  1.00  0.00    H
ATOM   2340  HG1 THR A 148     7.020  47.622  15.041  1.00  0.00    H
ATOM   2341 1HG2 THR A 148     5.151  48.632  16.730  1.00  0.00    H
ATOM   2342 2HG2 THR A 148     6.285  49.123  18.038  1.00  0.00    H
ATOM   2343 3HG2 THR A 148     6.671  49.461  16.318  1.00  0.00    H
ATOM   2344  N   TYR A 149     8.616  49.292  19.001  1.00  0.12    N
ATOM   2345  CA  TYR A 149     8.660  49.790  20.343  1.00  0.12    C
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ATOM   2346  C   TYR A 149     7.643  50.872  20.494  1.00  0.12      C
ATOM   2347  O   TYR A 149     7.419  51.669  19.586  1.00  0.12      O
ATOM   2348  CB  TYR A 149     9.999  50.438  20.732  1.00  0.12      C
ATOM   2349  CG  TYR A 149    11.045  49.387  20.866  1.00  0.12      C
ATOM   2350  CD1 TYR A 149    11.674  48.868  19.759  1.00  0.12      C
ATOM   2351  CD2 TYR A 149    11.402  48.934  22.113  1.00  0.12      C
ATOM   2352  CE1 TYR A 149    12.644  47.904  19.899  1.00  0.12      C
ATOM   2353  CE2 TYR A 149    12.372  47.971  22.260  1.00  0.12      C
ATOM   2354  CZ  TYR A 149    12.993  47.454  21.150  1.00  0.12      C
ATOM   2355  OH  TYR A 149    13.989  46.466  21.293  1.00  0.12      O
ATOM   2356  H   TYR A 149     8.800  49.943  18.247  1.00  0.00      H
ATOM   2357  HA  TYR A 149     8.441  48.967  21.010  1.00  0.00      H
ATOM   2358 1HB  TYR A 149     9.845  50.916  21.708  1.00  0.00      H
ATOM   2359 2HB  TYR A 149    10.289  51.212  20.005  1.00  0.00      H
ATOM   2360  HD1 TYR A 149    11.401  49.211  18.764  1.00  0.00      H
ATOM   2361  HD2 TYR A 149    10.960  49.396  22.992  1.00  0.00      H
ATOM   2362  HE1 TYR A 149    13.122  47.493  19.011  1.00  0.00      H
ATOM   2363  HE2 TYR A 149    13.003  48.093  23.120  1.00  0.00      H
ATOM   2364  HH  TYR A 149    14.639  46.549  20.554  1.00  0.00      H
ATOM   2365  N   TYR A 150     6.980  50.898  21.666  1.00  0.12      N
ATOM   2366  CA  TYR A 150     6.072  51.960  21.976  1.00  0.12      C
ATOM   2367  C   TYR A 150     6.183  52.188  23.446  1.00  0.12      C
ATOM   2368  O   TYR A 150     6.750  51.369  24.169  1.00  0.12      O
ATOM   2369  CB  TYR A 150     4.570  51.774  21.565  1.00  0.12      C
ATOM   2370  CG  TYR A 150     3.990  50.559  22.220  1.00  0.12      C
ATOM   2371  CD1 TYR A 150     3.295  50.653  23.419  1.00  0.12      C
ATOM   2372  CD2 TYR A 150     4.191  49.295  21.666  1.00  0.12      C
ATOM   2373  CE1 TYR A 150     2.907  49.520  24.112  1.00  0.12      C
ATOM   2374  CE2 TYR A 150     3.811  48.152  22.340  1.00  0.12      C
ATOM   2375  CZ  TYR A 150     3.225  48.255  23.614  1.00  0.12      C
ATOM   2376  OH  TYR A 150     3.066  47.123  24.350  1.00  0.12      O
ATOM   2377  H   TYR A 150     7.166  50.227  22.400  1.00  0.00      H
ATOM   2378  HA  TYR A 150     6.447  52.877  21.485  1.00  0.00      H
ATOM   2379 1HB  TYR A 150     4.500  51.683  20.480  1.00  0.00      H
ATOM   2380 2HB  TYR A 150     4.025  52.689  21.836  1.00  0.00      H
ATOM   2381  HD1 TYR A 150     3.054  51.631  23.829  1.00  0.00      H
ATOM   2382  HD2 TYR A 150     4.684  49.206  20.701  1.00  0.00      H
ATOM   2383  HE1 TYR A 150     2.366  49.635  25.050  1.00  0.00      H
ATOM   2384  HE2 TYR A 150     3.992  47.177  21.897  1.00  0.00      H
ATOM   2385  HH  TYR A 150     2.670  47.379  25.192  1.00  0.00      H
ATOM   2386  N   CYS A 151     5.668  53.328  23.936  1.00  0.27      N
ATOM   2387  CA  CYS A 151     5.851  53.607  25.325  1.00  0.27      C
ATOM   2388  C   CYS A 151     4.536  53.997  25.912  1.00  0.27      C
ATOM   2389  O   CYS A 151     3.648  54.482  25.215  1.00  0.27      O
ATOM   2390  CB  CYS A 151     6.843  54.762  25.548  1.00  0.27      C
ATOM   2391  SG  CYS A 151     7.171  55.139  27.291  1.00  0.27      S
ATOM   2392  H   CYS A 151     5.071  53.942  23.414  1.00  0.00      H
ATOM   2393  HA  CYS A 151     6.219  52.717  25.849  1.00  0.00      H
ATOM   2394 1HB  CYS A 151     6.499  55.675  25.037  1.00  0.00      H
ATOM   2395 2HB  CYS A 151     7.796  54.462  25.083  1.00  0.00      H
ATOM   2396  N   THR A 152     4.373  53.738  27.222  1.00  0.37      N
ATOM   2397  CA  THR A 152     3.202  54.153  27.934  1.00  0.37      C
ATOM   2398  C   THR A 152     3.659  54.946  29.104  1.00  0.37      C
ATOM   2399  O   THR A 152     4.747  54.733  29.635  1.00  0.37      O
ATOM   2400  CB  THR A 152     2.327  53.042  28.434  1.00  0.37      C
ATOM   2401  OG1 THR A 152     3.105  52.054  29.091  1.00  0.37      O
ATOM   2402  CG2 THR A 152     1.524  52.454  27.271  1.00  0.37      C
ATOM   2403  H   THR A 152     5.098  53.297  27.770  1.00  0.00      H
ATOM   2404  HA  THR A 152     2.623  54.822  27.283  1.00  0.00      H
ATOM   2405  HB  THR A 152     1.589  53.466  29.145  1.00  0.00      H
ATOM   2406  HG1 THR A 152     3.224  52.392  29.991  1.00  0.00      H
ATOM   2407 1HG2 THR A 152     0.849  51.662  27.628  1.00  0.00      H
ATOM   2408 2HG2 THR A 152     0.960  53.241  26.770  1.00  0.00      H
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ATOM   2409 3HG2 THR A 152     2.188  51.996  26.521  1.00  0.00     H
ATOM   2410  N   GLY A 153     2.829  55.919  29.520  1.00  0.21     N
ATOM   2411  CA  GLY A 153     3.195  56.730  30.637  1.00  0.21     C
ATOM   2412  C   GLY A 153     1.974  57.474  31.040  1.00  0.21     C
ATOM   2413  O   GLY A 153     1.021  57.588  30.271  1.00  0.21     O
ATOM   2414  H   GLY A 153     1.886  56.034  29.142  1.00  0.00     H
ATOM   2415 1HA  GLY A 153     3.993  57.444  30.370  1.00  0.00     H
ATOM   2416 2HA  GLY A 153     3.543  56.101  31.450  1.00  0.00     H
ATOM   2417  N   LYS A 154     1.972  58.006  32.275  1.00  0.12     N
ATOM   2418  CA  LYS A 154     0.807  58.711  32.702  1.00  0.12     C
ATOM   2419  C   LYS A 154     1.155  60.151  32.821  1.00  0.12     C
ATOM   2420  O   LYS A 154     2.059  60.530  33.565  1.00  0.12     O
ATOM   2421  CB  LYS A 154     0.290  58.265  34.077  1.00  0.12     C
ATOM   2422  CG  LYS A 154    -0.176  56.810  34.106  1.00  0.12     C
ATOM   2423  CD  LYS A 154    -0.395  56.275  35.521  1.00  0.12     C
ATOM   2424  CE  LYS A 154    -0.863  54.818  35.557  1.00  0.12     C
ATOM   2425  NZ  LYS A 154    -1.046  54.378  36.959  1.00  0.12     N1+
ATOM   2426  H   LYS A 154     2.733  57.898  32.935  1.00  0.00     H
ATOM   2427  HA  LYS A 154     0.031  58.632  31.958  1.00  0.00     H
ATOM   2428 1HB  LYS A 154    -0.526  58.939  34.362  1.00  0.00     H
ATOM   2429 2HB  LYS A 154     1.176  58.355  34.684  1.00  0.00     H
ATOM   2430 1HG  LYS A 154     0.548  56.156  33.586  1.00  0.00     H
ATOM   2431 2HG  LYS A 154    -1.115  56.752  33.543  1.00  0.00     H
ATOM   2432 1HD  LYS A 154    -1.072  56.939  36.083  1.00  0.00     H
ATOM   2433 2HD  LYS A 154     0.602  56.301  35.950  1.00  0.00     H
ATOM   2434 1HE  LYS A 154    -0.129  54.147  35.080  1.00  0.00     H
ATOM   2435 2HE  LYS A 154    -1.829  54.686  35.041  1.00  0.00     H
ATOM   2436 1HZ  LYS A 154    -1.436  53.444  36.999  1.00  0.00     H
ATOM   2437 2HZ  LYS A 154    -0.179  54.358  37.466  1.00  0.00     H
ATOM   2438 3HZ  LYS A 154    -1.701  54.977  37.445  1.00  0.00     H
ATOM   2439  N   VAL A 155     0.441  60.994  32.056  1.00  0.20     N
ATOM   2440  CA  VAL A 155     0.620  62.404  32.171  1.00  0.20     C
ATOM   2441  C   VAL A 155    -0.646  62.882  32.782  1.00  0.20     C
ATOM   2442  O   VAL A 155    -1.735  62.479  32.374  1.00  0.20     O
ATOM   2443  CB  VAL A 155     0.804  63.105  30.854  1.00  0.20     C
ATOM   2444  CG1 VAL A 155     2.117  62.612  30.221  1.00  0.20     C
ATOM   2445  CG2 VAL A 155    -0.439  62.853  29.983  1.00  0.20     C
ATOM   2446  H   VAL A 155    -0.465  60.701  31.705  1.00  0.00     H
ATOM   2447  HA  VAL A 155     1.474  62.627  32.829  1.00  0.00     H
ATOM   2448  HB  VAL A 155     0.898  64.185  31.070  1.00  0.00     H
ATOM   2449 1HG1 VAL A 155     2.526  63.319  29.484  1.00  0.00     H
ATOM   2450 2HG1 VAL A 155     2.861  62.443  31.007  1.00  0.00     H
ATOM   2451 3HG1 VAL A 155     1.975  61.644  29.711  1.00  0.00     H
ATOM   2452 1HG2 VAL A 155    -0.249  63.172  28.942  1.00  0.00     H
ATOM   2453 2HG2 VAL A 155    -0.649  61.785  29.939  1.00  0.00     H
ATOM   2454 3HG2 VAL A 155    -1.343  63.391  30.285  1.00  0.00     H
ATOM   2455  N   TRP A 156    -0.539  63.723  33.820  1.00  0.33     N
ATOM   2456  CA  TRP A 156    -1.740  64.153  34.455  1.00  0.33     C
ATOM   2457  C   TRP A 156    -2.323  62.911  35.034  1.00  0.33     C
ATOM   2458  O   TRP A 156    -1.605  61.962  35.350  1.00  0.33     O
ATOM   2459  CB  TRP A 156    -2.765  64.766  33.483  1.00  0.33     C
ATOM   2460  CG  TRP A 156    -2.277  66.008  32.771  1.00  0.33     C
ATOM   2461  CD1 TRP A 156    -1.694  66.113  31.543  1.00  0.33     C
ATOM   2462  CD2 TRP A 156    -2.345  67.341  33.303  1.00  0.33     C
ATOM   2463  NE1 TRP A 156    -1.392  67.427  31.275  1.00  0.33     N
ATOM   2464  CE2 TRP A 156    -1.787  68.195  32.350  1.00  0.33     C
ATOM   2465  CE3 TRP A 156    -2.832  67.816  34.487  1.00  0.33     C
ATOM   2466  CZ2 TRP A 156    -1.705  69.541  32.569  1.00  0.33     C
ATOM   2467  CZ3 TRP A 156    -2.748  69.175  34.703  1.00  0.33     C
ATOM   2468  CH2 TRP A 156    -2.195  70.021  33.763  1.00  0.33     C
ATOM   2469  H   TRP A 156     0.348  64.062  34.155  1.00  0.00     H
ATOM   2470  HA  TRP A 156    -1.505  64.859  35.270  1.00  0.00     H
ATOM   2471 1HB  TRP A 156    -3.617  65.114  34.092  1.00  0.00     H
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ATOM   2472 2HB  TRP A 156    -3.230  64.080  32.765  1.00  0.00     H
ATOM   2473  HD1 TRP A 156    -1.470  65.339  30.827  1.00  0.00     H
ATOM   2474  HE1 TRP A 156    -0.853  67.759  30.508  1.00  0.00     H
ATOM   2475  HE3 TRP A 156    -3.265  67.164  35.237  1.00  0.00     H
ATOM   2476  HZ2 TRP A 156    -1.272  70.204  31.826  1.00  0.00     H
ATOM   2477  HZ3 TRP A 156    -3.122  69.593  35.635  1.00  0.00     H
ATOM   2478  HH2 TRP A 156    -2.143  71.087  33.972  1.00  0.00     H
ATOM   2479  N   GLN A 157    -3.656  62.899  35.190  1.00  0.49     N
ATOM   2480  CA  GLN A 157    -4.338  61.769  35.739  1.00  0.49     C
ATOM   2481  C   GLN A 157    -4.276  60.630  34.773  1.00  0.49     C
ATOM   2482  O   GLN A 157    -4.048  59.485  35.160  1.00  0.49     O
ATOM   2483  CB  GLN A 157    -5.830  62.050  35.969  1.00  0.49     C
ATOM   2484  CG  GLN A 157    -6.082  63.297  36.814  1.00  0.49     C
ATOM   2485  CD  GLN A 157    -5.294  63.145  38.101  1.00  0.49     C
ATOM   2486  OE1 GLN A 157    -5.354  62.107  38.756  1.00  0.49     O
ATOM   2487  NE2 GLN A 157    -4.525  64.203  38.466  1.00  0.49     N
ATOM   2488  H   GLN A 157    -4.225  63.687  34.941  1.00  0.00     H
ATOM   2489  HA  GLN A 157    -3.849  61.453  36.673  1.00  0.00     H
ATOM   2490 1HB  GLN A 157    -6.280  61.160  36.442  1.00  0.00     H
ATOM   2491 2HB  GLN A 157    -6.355  62.215  35.031  1.00  0.00     H
ATOM   2492 1HG  GLN A 157    -7.147  63.381  37.094  1.00  0.00     H
ATOM   2493 2HG  GLN A 157    -5.821  64.214  36.260  1.00  0.00     H
ATOM   2494 1HE2 GLN A 157    -4.495  65.056  37.942  1.00  0.00     H
ATOM   2495 2HE2 GLN A 157    -3.997  64.103  39.316  1.00  0.00     H
ATOM   2496  N   LEU A 158    -4.459  60.932  33.473  1.00  0.41     N
ATOM   2497  CA  LEU A 158    -4.607  59.905  32.483  1.00  0.41     C
ATOM   2498  C   LEU A 158    -3.306  59.269  32.127  1.00  0.41     C
ATOM   2499  O   LEU A 158    -2.227  59.803  32.381  1.00  0.41     O
ATOM   2500  CB  LEU A 158    -5.252  60.399  31.176  1.00  0.41     C
ATOM   2501  CG  LEU A 158    -6.699  60.889  31.364  1.00  0.41     C
ATOM   2502  CD1 LEU A 158    -7.628  59.742  31.796  1.00  0.41     C
ATOM   2503  CD2 LEU A 158    -6.758  62.101  32.310  1.00  0.41     C
ATOM   2504  H   LEU A 158    -4.372  61.876  33.144  1.00  0.00     H
ATOM   2505  HA  LEU A 158    -5.247  59.120  32.926  1.00  0.00     H
ATOM   2506 1HB  LEU A 158    -5.231  59.590  30.425  1.00  0.00     H
ATOM   2507 2HB  LEU A 158    -4.656  61.226  30.773  1.00  0.00     H
ATOM   2508  HG  LEU A 158    -7.047  61.227  30.367  1.00  0.00     H
ATOM   2509 1HD1 LEU A 158    -8.682  60.066  31.788  1.00  0.00     H
ATOM   2510 2HD1 LEU A 158    -7.548  58.883  31.108  1.00  0.00     H
ATOM   2511 3HD1 LEU A 158    -7.408  59.385  32.814  1.00  0.00     H
ATOM   2512 1HD2 LEU A 158    -7.652  62.708  32.086  1.00  0.00     H
ATOM   2513 2HD2 LEU A 158    -6.896  61.750  33.331  1.00  0.00     H
ATOM   2514 3HD2 LEU A 158    -5.894  62.776  32.222  1.00  0.00     H
ATOM   2515  N   ASP A 159    -3.419  58.062  31.533  1.00  0.19     N
ATOM   2516  CA  ASP A 159    -2.310  57.288  31.058  1.00  0.19     C
ATOM   2517  C   ASP A 159    -2.414  57.323  29.566  1.00  0.19     C
ATOM   2518  O   ASP A 159    -3.504  57.198  29.009  1.00  0.19     O
ATOM   2519  CB  ASP A 159    -2.381  55.809  31.503  1.00  0.19     C
ATOM   2520  CG  ASP A 159    -1.124  55.027  31.117  1.00  0.19     C
ATOM   2521  OD1 ASP A 159    -0.378  55.468  30.205  1.00  0.19     O
ATOM   2522  OD2 ASP A 159    -0.904  53.956  31.744  1.00  0.19     O1-
ATOM   2523  H   ASP A 159    -4.304  57.666  31.271  1.00  0.00     H
ATOM   2524  HA  ASP A 159    -1.394  57.724  31.412  1.00  0.00     H
ATOM   2525 1HB  ASP A 159    -3.242  55.320  31.016  1.00  0.00     H
ATOM   2526 2HB  ASP A 159    -2.577  55.702  32.580  1.00  0.00     H
ATOM   2527  N   TYR A 160    -1.279  57.531  28.874  1.00  0.11     N
ATOM   2528  CA  TYR A 160    -1.321  57.584  27.443  1.00  0.11     C
ATOM   2529  C   TYR A 160    -0.381  56.562  26.901  1.00  0.11     C
ATOM   2530  O   TYR A 160     0.535  56.111  27.589  1.00  0.11     O
ATOM   2531  CB  TYR A 160    -0.884  58.937  26.857  1.00  0.11     C
ATOM   2532  CG  TYR A 160    -1.939  59.942  27.171  1.00  0.11     C
ATOM   2533  CD1 TYR A 160    -2.067  60.462  28.439  1.00  0.11     C
ATOM   2534  CD2 TYR A 160    -2.794  60.378  26.185  1.00  0.11     C
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ATOM   2535  CE1 TYR A 160    -3.042  61.390  28.720  1.00  0.11      C
ATOM   2536  CE2 TYR A 160    -3.771  61.306  26.459  1.00  0.11      C
ATOM   2537  CZ  TYR A 160    -3.895  61.814  27.730  1.00  0.11      C
ATOM   2538  OH  TYR A 160    -4.895  62.767  28.019  1.00  0.11      O
ATOM   2539  H   TYR A 160    -0.429  57.158  29.312  1.00  0.00      H
ATOM   2540  HA  TYR A 160    -2.323  57.325  27.087  1.00  0.00      H
ATOM   2541 1HB  TYR A 160    -0.756  58.828  25.769  1.00  0.00      H
ATOM   2542 2HB  TYR A 160     0.099  59.231  27.261  1.00  0.00      H
ATOM   2543  HD1 TYR A 160    -1.420  60.088  29.225  1.00  0.00      H
ATOM   2544  HD2 TYR A 160    -2.708  59.975  25.179  1.00  0.00      H
ATOM   2545  HE1 TYR A 160    -3.087  61.827  29.711  1.00  0.00      H
ATOM   2546  HE2 TYR A 160    -4.440  61.623  25.662  1.00  0.00      H
ATOM   2547  HH  TYR A 160    -5.696  62.470  27.566  1.00  0.00      H
ATOM   2548  N   GLU A 161    -0.622  56.144  25.643  1.00  0.12      N
ATOM   2549  CA  GLU A 161     0.262  55.219  25.000  1.00  0.12      C
ATOM   2550  C   GLU A 161     0.753  55.893  23.762  1.00  0.12      C
ATOM   2551  O   GLU A 161     0.033  56.669  23.135  1.00  0.12      O
ATOM   2552  CB  GLU A 161    -0.537  53.970  24.530  1.00  0.12      C
ATOM   2553  CG  GLU A 161    -1.765  53.494  25.343  1.00  0.12      C
ATOM   2554  CD  GLU A 161    -1.424  52.544  26.509  1.00  0.12      C
ATOM   2555  OE1 GLU A 161    -1.294  51.360  26.186  1.00  0.12      O
ATOM   2556  OE2 GLU A 161    -1.270  53.072  27.616  1.00  0.12      O1-
ATOM   2557  H   GLU A 161    -1.390  56.468  25.083  1.00  0.00      H
ATOM   2558  HA  GLU A 161     1.082  54.949  25.668  1.00  0.00      H
ATOM   2559 1HB  GLU A 161     0.157  53.123  24.376  1.00  0.00      H
ATOM   2560 2HB  GLU A 161    -0.927  54.220  23.531  1.00  0.00      H
ATOM   2561 1HG  GLU A 161    -2.415  52.932  24.651  1.00  0.00      H
ATOM   2562 2HG  GLU A 161    -2.358  54.344  25.709  1.00  0.00      H
ATOM   2563  N   SER A 162     2.020  55.632  23.397  1.00  0.11      N
ATOM   2564  CA  SER A 162     2.598  56.250  22.242  1.00  0.11      C
ATOM   2565  C   SER A 162     2.381  55.367  21.065  1.00  0.11      C
ATOM   2566  O   SER A 162     1.967  54.216  21.196  1.00  0.11      O
ATOM   2567  CB  SER A 162     4.113  56.489  22.371  1.00  0.11      C
ATOM   2568  OG  SER A 162     4.614  57.110  21.196  1.00  0.11      O
ATOM   2569  H   SER A 162     2.604  55.025  23.964  1.00  0.00      H
ATOM   2570  HA  SER A 162     2.118  57.229  22.070  1.00  0.00      H
ATOM   2571 1HB  SER A 162     4.627  55.527  22.518  1.00  0.00      H
ATOM   2572 2HB  SER A 162     4.316  57.117  23.249  1.00  0.00      H
ATOM   2573  HG  SER A 162     5.577  57.118  21.318  1.00  0.00      H
ATOM   2574  N   GLU A 163     2.640  55.915  19.864  1.00  0.13      N
ATOM   2575  CA  GLU A 163     2.517  55.151  18.661  1.00  0.13      C
ATOM   2576  C   GLU A 163     3.757  54.333  18.544  1.00  0.13      C
ATOM   2577  O   GLU A 163     4.830  54.718  19.006  1.00  0.13      O
ATOM   2578  CB  GLU A 163     2.382  56.031  17.407  1.00  0.13      C
ATOM   2579  CG  GLU A 163     3.567  56.976  17.202  1.00  0.13      C
ATOM   2580  CD  GLU A 163     3.153  58.020  16.177  1.00  0.13      C
ATOM   2581  OE1 GLU A 163     2.076  58.643  16.381  1.00  0.13      O
ATOM   2582  OE2 GLU A 163     3.900  58.212  15.181  1.00  0.13      O1-
ATOM   2583  H   GLU A 163     3.159  56.782  19.804  1.00  0.00      H
ATOM   2584  HA  GLU A 163     1.565  54.603  18.736  1.00  0.00      H
ATOM   2585 1HB  GLU A 163     1.438  56.596  17.501  1.00  0.00      H
ATOM   2586 2HB  GLU A 163     2.265  55.357  16.540  1.00  0.00      H
ATOM   2587 1HG  GLU A 163     4.481  56.445  16.900  1.00  0.00      H
ATOM   2588 2HG  GLU A 163     3.766  57.518  18.137  1.00  0.00      H
ATOM   2589  N   PRO A 164     3.611  53.185  17.956  1.00  0.13      N
ATOM   2590  CA  PRO A 164     4.751  52.324  17.819  1.00  0.13      C
ATOM   2591  C   PRO A 164     5.680  52.796  16.752  1.00  0.13      C
ATOM   2592  O   PRO A 164     5.235  53.459  15.818  1.00  0.13      O
ATOM   2593  CB  PRO A 164     4.189  50.930  17.565  1.00  0.13      C
ATOM   2594  CG  PRO A 164     2.815  50.957  18.251  1.00  0.13      C
ATOM   2595  CD  PRO A 164     2.385  52.429  18.167  1.00  0.13      C
ATOM   2596  HA  PRO A 164     5.289  52.312  18.774  1.00  0.00      H
ATOM   2597 1HB  PRO A 164     4.769  50.185  18.092  1.00  0.00      H
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ATOM   2598  2HB  PRO A 164       4.113  50.690  16.495  1.00  0.00      H
ATOM   2599  1HG  PRO A 164       2.920  50.648  19.303  1.00  0.00      H
ATOM   2600  2HG  PRO A 164       2.075  50.275  17.803  1.00  0.00      H
ATOM   2601  1HD  PRO A 164       1.700  52.602  17.322  1.00  0.00      H
ATOM   2602  2HD  PRO A 164       1.875  52.702  19.099  1.00  0.00      H
ATOM   2603  N    LEU A 165       6.982  52.483  16.888  1.00  0.11      N
ATOM   2604  CA   LEU A 165       7.932  52.840  15.879  1.00  0.11      C
ATOM   2605  C    LEU A 165       8.678  51.587  15.565  1.00  0.11      C
ATOM   2606  O    LEU A 165       8.896  50.754  15.444  1.00  0.11      O
ATOM   2607  CB   LEU A 165       8.953  53.897  16.327  1.00  0.11      C
ATOM   2608  CG   LEU A 165       8.309  55.248  16.688  1.00  0.11      C
ATOM   2609  CD1  LEU A 165       9.377  56.304  17.011  1.00  0.11      C
ATOM   2610  CD2  LEU A 165       7.321  55.708  15.605  1.00  0.11      C
ATOM   2611  H    LEU A 165       7.333  52.020  17.718  1.00  0.00      H
ATOM   2612  HA   LEU A 165       7.399  53.174  14.975  1.00  0.00      H
ATOM   2613 1HB  LEU A 165       9.663  54.039  15.492  1.00  0.00      H
ATOM   2614 2HB  LEU A 165       9.540  53.512  17.180  1.00  0.00      H
ATOM   2615  HG   LEU A 165       7.725  55.110  17.619  1.00  0.00      H
ATOM   2616 1HD1 LEU A 165       8.889  57.250  17.269  1.00  0.00      H
ATOM   2617 2HD1 LEU A 165      10.014  55.959  17.841  1.00  0.00      H
ATOM   2618 3HD1 LEU A 165      10.045  56.456  16.150  1.00  0.00      H
ATOM   2619 1HD2 LEU A 165       7.258  56.806  15.620  1.00  0.00      H
ATOM   2620 2HD2 LEU A 165       7.617  55.405  14.591  1.00  0.00      H
ATOM   2621 3HD2 LEU A 165       6.293  55.405  15.796  1.00  0.00      H
ATOM   2622  N    ASN A 166       9.077  51.402  14.294  1.00  0.10      N
ATOM   2623  CA   ASN A 166       9.772  50.192  13.976  1.00  0.10      C
ATOM   2624  C    ASN A 166      11.234  50.478  14.008  1.00  0.10      C
ATOM   2625  O    ASN A 166      11.729  51.346  13.291  1.00  0.10      O
ATOM   2626  CB   ASN A 166       9.460  49.623  12.581  1.00  0.10      C
ATOM   2627  CG   ASN A 166       8.056  49.035  12.593  1.00  0.10      C
ATOM   2628  OD1  ASN A 166       7.304  49.185  13.555  1.00  0.10      O
ATOM   2629  ND2  ASN A 166       7.695  48.328  11.490  1.00  0.10      N
ATOM   2630  H    ASN A 166       8.934  52.059  13.548  1.00  0.00      H
ATOM   2631  HA   ASN A 166       9.513  49.396  14.694  1.00  0.00      H
ATOM   2632 1HB  ASN A 166      10.186  48.815  12.378  1.00  0.00      H
ATOM   2633 2HB  ASN A 166       9.555  50.379  11.786  1.00  0.00      H
ATOM   2634 1HD2 ASN A 166       8.315  48.199  10.712  1.00  0.00      H
ATOM   2635 2HD2 ASN A 166       6.774  47.924  11.489  1.00  0.00      H
ATOM   2636  N    ILE A 167      11.959  49.747  14.873  1.00  0.22      N
ATOM   2637  CA   ILE A 167      13.378  49.904  14.942  1.00  0.22      C
ATOM   2638  C    ILE A 167      13.954  48.591  14.545  1.00  0.22      C
ATOM   2639  O    ILE A 167      13.535  47.544  15.035  1.00  0.22      O
ATOM   2640  CB   ILE A 167      13.880  50.216  16.322  1.00  0.22      C
ATOM   2641  CG1  ILE A 167      13.316  51.562  16.805  1.00  0.22      C
ATOM   2642  CG2  ILE A 167      15.418  50.161  16.294  1.00  0.22      C
ATOM   2643  CD1  ILE A 167      13.532  51.815  18.297  1.00  0.22      C
ATOM   2644  H    ILE A 167      11.571  48.981  15.415  1.00  0.00      H
ATOM   2645  HA   ILE A 167      13.699  50.705  14.261  1.00  0.00      H
ATOM   2646  HB   ILE A 167      13.530  49.426  17.014  1.00  0.00      H
ATOM   2647 1HG1 ILE A 167      12.227  51.610  16.623  1.00  0.00      H
ATOM   2648 2HG1 ILE A 167      13.758  52.388  16.219  1.00  0.00      H
ATOM   2649 1HG2 ILE A 167      15.829  50.322  17.306  1.00  0.00      H
ATOM   2650 2HG2 ILE A 167      15.817  49.186  15.976  1.00  0.00      H
ATOM   2651 3HG2 ILE A 167      15.852  50.951  15.670  1.00  0.00      H
ATOM   2652 1HD1 ILE A 167      13.012  52.730  18.621  1.00  0.00      H
ATOM   2653 2HD1 ILE A 167      13.158  50.981  18.909  1.00  0.00      H
ATOM   2654 3HD1 ILE A 167      14.602  51.943  18.511  1.00  0.00      H
ATOM   2655  N    THR A 168      14.926  48.604  13.618  1.00  0.48      N
ATOM   2656  CA   THR A 168      15.488  47.353  13.212  1.00  0.48      C
ATOM   2657  C    THR A 168      16.955  47.396  13.410  1.00  0.48      C
ATOM   2658  O    THR A 168      17.587  48.447  13.312  1.00  0.48      O
ATOM   2659  CB   THR A 168      15.289  47.020  11.764  1.00  0.48      C
ATOM   2660  OG1  THR A 168      15.798  48.064  10.948  1.00  0.48      O
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ATOM   2661  CG2 THR A 168   13.800  46.788  11.494  1.00  0.48     C
ATOM   2662  H   THR A 168   15.334  49.451  13.242  1.00  0.00     H
ATOM   2663  HA  THR A 168   15.086  46.551  13.823  1.00  0.00     H
ATOM   2664  HB  THR A 168   15.828  46.078  11.542  1.00  0.00     H
ATOM   2665  HG1 THR A 168   16.752  48.111  11.107  1.00  0.00     H
ATOM   2666 1HG2 THR A 168   13.629  46.488  10.447  1.00  0.00     H
ATOM   2667 2HG2 THR A 168   13.392  45.995  12.141  1.00  0.00     H
ATOM   2668 3HG2 THR A 168   13.218  47.707  11.670  1.00  0.00     H
ATOM   2669  N   VAL A 169   17.538  46.228  13.724  1.00  0.55     N
ATOM   2670  CA  VAL A 169   18.958  46.199  13.795  1.00  0.55     C
ATOM   2671  C   VAL A 169   19.375  45.828  12.415  1.00  0.55     C
ATOM   2672  O   VAL A 169   18.935  44.820  11.863  1.00  0.55     O
ATOM   2673  CB  VAL A 169   19.532  45.207  14.771  1.00  0.55     C
ATOM   2674  CG1 VAL A 169   19.096  45.621  16.183  1.00  0.55     C
ATOM   2675  CG2 VAL A 169   19.102  43.782  14.391  1.00  0.55     C
ATOM   2676  H   VAL A 169   17.097  45.329  13.643  1.00  0.00     H
ATOM   2677  HA  VAL A 169   19.344  47.190  14.069  1.00  0.00     H
ATOM   2678  HB  VAL A 169   20.631  45.296  14.679  1.00  0.00     H
ATOM   2679 1HG1 VAL A 169   19.882  45.432  16.925  1.00  0.00     H
ATOM   2680 2HG1 VAL A 169   18.919  46.708  16.250  1.00  0.00     H
ATOM   2681 3HG1 VAL A 169   18.150  45.151  16.482  1.00  0.00     H
ATOM   2682 1HG2 VAL A 169   19.961  43.256  14.838  1.00  0.00     H
ATOM   2683 2HG2 VAL A 169   18.107  43.608  14.822  1.00  0.00     H
ATOM   2684 3HG2 VAL A 169   19.091  43.378  13.385  1.00  0.00     H
ATOM   2685  N   ILE A 170   20.221  46.672  11.807  1.00  0.56     N
ATOM   2686  CA  ILE A 170   20.637  46.451  10.457  1.00  0.56     C
ATOM   2687  C   ILE A 170   21.357  45.145  10.428  1.00  0.56     C
ATOM   2688  O   ILE A 170   21.198  44.364   9.490  1.00  0.56     O
ATOM   2689  CB  ILE A 170   21.546  47.545   9.942  1.00  0.56     C
ATOM   2690  CG1 ILE A 170   21.728  47.467   8.414  1.00  0.56     C
ATOM   2691  CG2 ILE A 170   22.867  47.492  10.727  1.00  0.56     C
ATOM   2692  CD1 ILE A 170   22.467  46.223   7.921  1.00  0.56     C
ATOM   2693  H   ILE A 170   20.615  47.485  12.272  1.00  0.00     H
ATOM   2694  HA  ILE A 170   19.739  46.349   9.824  1.00  0.00     H
ATOM   2695  HB  ILE A 170   21.142  48.513  10.164  1.00  0.00     H
ATOM   2696 1HG1 ILE A 170   22.296  48.360   8.094  1.00  0.00     H
ATOM   2697 2HG1 ILE A 170   20.748  47.543   7.909  1.00  0.00     H
ATOM   2698 1HG2 ILE A 170   23.219  48.524  10.855  1.00  0.00     H
ATOM   2699 2HG2 ILE A 170   22.796  47.047  11.714  1.00  0.00     H
ATOM   2700 3HG2 ILE A 170   23.675  46.954  10.210  1.00  0.00     H
ATOM   2701 1HD1 ILE A 170   23.115  46.497   7.070  1.00  0.00     H
ATOM   2702 2HD1 ILE A 170   23.131  45.742   8.651  1.00  0.00     H
ATOM   2703 3HD1 ILE A 170   21.776  45.472   7.510  1.00  0.00     H
ATOM   2704  N   LYS A 171   22.156  44.867  11.475  1.00  0.52     N
ATOM   2705  CA  LYS A 171   22.902  43.646  11.537  1.00  0.52     C
ATOM   2706  C   LYS A 171   21.908  42.536  11.406  1.00  0.52     C
ATOM   2707  O   LYS A 171   20.957  42.448  12.180  1.00  0.52     O
ATOM   2708  CB  LYS A 171   23.649  43.510  12.879  1.00  0.52     C
ATOM   2709  CG  LYS A 171   24.731  42.430  12.935  1.00  0.52     C
ATOM   2710  CD  LYS A 171   24.206  41.006  12.790  1.00  0.52     C
ATOM   2711  CE  LYS A 171   25.263  39.934  13.064  1.00  0.52     C
ATOM   2712  NZ  LYS A 171   26.436  40.153  12.190  1.00  0.52    N1+
ATOM   2713  H   LYS A 171   22.064  45.419  12.309  1.00  0.00     H
ATOM   2714  HA  LYS A 171   23.632  43.648  10.707  1.00  0.00     H
ATOM   2715 1HB  LYS A 171   22.872  43.341  13.643  1.00  0.00     H
ATOM   2716 2HB  LYS A 171   24.129  44.479  13.070  1.00  0.00     H
ATOM   2717 1HG  LYS A 171   25.345  42.498  13.836  1.00  0.00     H
ATOM   2718 2HG  LYS A 171   25.440  42.623  12.108  1.00  0.00     H
ATOM   2719 1HD  LYS A 171   23.964  40.933  11.730  1.00  0.00     H
ATOM   2720 2HD  LYS A 171   23.302  40.816  13.390  1.00  0.00     H
ATOM   2721 1HE  LYS A 171   24.877  38.923  12.853  1.00  0.00     H
ATOM   2722 2HE  LYS A 171   25.630  39.937  14.101  1.00  0.00     H
ATOM   2723 1HZ  LYS A 171   27.152  39.454  12.333  1.00  0.00     H
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ATOM   2724 2HZ  LYS A 171    26.174  40.112  11.214  1.00  0.00    H
ATOM   2725 3HZ  LYS A 171    26.861  41.053  12.366  1.00  0.00    H
ATOM   2726  N   ALA A 172    22.097  41.667  10.393  1.00  0.31    N
ATOM   2727  CA  ALA A 172    21.148  40.617  10.164  1.00  0.31    C
ATOM   2728  C   ALA A 172    21.773  39.272  10.514  1.00  0.31    C
ATOM   2729  O   ALA A 172    21.353  38.260   9.895  1.00  0.31    O
ATOM   2730  CB  ALA A 172    20.692  40.524   8.698  1.00  0.31    C
ATOM   2731  OXT ALA A 172    22.663  39.229  11.402  1.00  0.31    O1-
ATOM   2732  H   ALA A 172    22.807  41.776   9.698  1.00  0.00    H
ATOM   2733  HA  ALA A 172    20.252  40.765  10.785  1.00  0.00    H
ATOM   2734 1HB  ALA A 172    19.857  39.810   8.602  1.00  0.00    H
ATOM   2735 2HB  ALA A 172    20.320  41.491   8.321  1.00  0.00    H
ATOM   2736 3HB  ALA A 172    21.505  40.199   8.030  1.00  0.00    H
ATOM   2737  N   VAL B   1   -35.035  33.443  -3.312  1.00  0.14    N1+
ATOM   2738  CA  VAL B   1   -36.312  33.784  -2.644  1.00  0.14    C
ATOM   2739  C   VAL B   1   -36.557  33.129  -1.314  1.00  0.14    C
ATOM   2740  O   VAL B   1   -37.357  33.653  -0.542  1.00  0.14    O
ATOM   2741  CB  VAL B   1   -37.484  33.539  -3.566  1.00  0.14    C
ATOM   2742  CG1 VAL B   1   -37.364  34.515  -4.747  1.00  0.14    C
ATOM   2743  CG2 VAL B   1   -37.528  32.067  -4.005  1.00  0.14    C
ATOM   2744 1H   VAL B   1   -34.869  34.004  -4.138  1.00  0.00    H
ATOM   2745 2H   VAL B   1   -34.241  33.598  -2.703  1.00  0.00    H
ATOM   2746 3H   VAL B   1   -34.995  32.476  -3.602  1.00  0.00    H
ATOM   2747  HA  VAL B   1   -36.235  34.860  -2.400  1.00  0.00    H
ATOM   2748  HB  VAL B   1   -38.411  33.777  -3.011  1.00  0.00    H
ATOM   2749 1HG1 VAL B   1   -38.229  34.435  -5.429  1.00  0.00    H
ATOM   2750 2HG1 VAL B   1   -37.326  35.564  -4.406  1.00  0.00    H
ATOM   2751 3HG1 VAL B   1   -36.463  34.319  -5.351  1.00  0.00    H
ATOM   2752 1HG2 VAL B   1   -38.228  31.983  -4.860  1.00  0.00    H
ATOM   2753 2HG2 VAL B   1   -36.576  31.696  -4.412  1.00  0.00    H
ATOM   2754 3HG2 VAL B   1   -38.001  31.421  -3.249  1.00  0.00    H
ATOM   2755  N   PRO B   2   -35.933  32.030  -0.959  1.00  0.15    N
ATOM   2756  CA  PRO B   2   -36.195  31.541   0.363  1.00  0.15    C
ATOM   2757  C   PRO B   2   -35.493  32.410   1.350  1.00  0.15    C
ATOM   2758  O   PRO B   2   -34.546  33.097   0.973  1.00  0.15    O
ATOM   2759  CB  PRO B   2   -35.731  30.088   0.391  1.00  0.15    C
ATOM   2760  CG  PRO B   2   -35.897  29.635  -1.067  1.00  0.15    C
ATOM   2761  CD  PRO B   2   -35.709  30.924  -1.884  1.00  0.15    C
ATOM   2762  HA  PRO B   2   -37.285  31.530   0.558  1.00  0.00    H
ATOM   2763 1HB  PRO B   2   -36.304  29.496   1.118  1.00  0.00    H
ATOM   2764 2HB  PRO B   2   -34.669  30.026   0.677  1.00  0.00    H
ATOM   2765 1HG  PRO B   2   -36.917  29.240  -1.212  1.00  0.00    H
ATOM   2766 2HG  PRO B   2   -35.203  28.833  -1.366  1.00  0.00    H
ATOM   2767 1HD  PRO B   2   -34.667  30.980  -2.239  1.00  0.00    H
ATOM   2768 2HD  PRO B   2   -36.339  30.824  -2.732  1.00  0.00    H
ATOM   2769  N   GLN B   3   -35.941  32.393   2.617  1.00  0.19    N
ATOM   2770  CA  GLN B   3   -35.329  33.215   3.614  1.00  0.19    C
ATOM   2771  C   GLN B   3   -33.901  32.793   3.703  1.00  0.19    C
ATOM   2772  O   GLN B   3   -33.553  31.670   3.339  1.00  0.19    O
ATOM   2773  CB  GLN B   3   -35.986  33.063   4.996  1.00  0.19    C
ATOM   2774  CG  GLN B   3   -35.493  34.064   6.040  1.00  0.19    C
ATOM   2775  CD  GLN B   3   -36.327  33.844   7.293  1.00  0.19    C
ATOM   2776  OE1 GLN B   3   -36.930  32.787   7.467  1.00  0.19    O
ATOM   2777  NE2 GLN B   3   -36.374  34.869   8.185  1.00  0.19    N
ATOM   2778  H   GLN B   3   -36.686  31.783   2.909  1.00  0.00    H
ATOM   2779  HA  GLN B   3   -35.401  34.270   3.289  1.00  0.00    H
ATOM   2780 1HB  GLN B   3   -35.828  32.030   5.351  1.00  0.00    H
ATOM   2781 2HB  GLN B   3   -37.076  33.203   4.874  1.00  0.00    H
ATOM   2782 1HG  GLN B   3   -35.596  35.097   5.669  1.00  0.00    H
ATOM   2783 2HG  GLN B   3   -34.444  33.879   6.303  1.00  0.00    H
ATOM   2784 1HE2 GLN B   3   -36.282  35.816   7.857  1.00  0.00    H
ATOM   2785 2HE2 GLN B   3   -37.049  34.698   8.921  1.00  0.00    H
ATOM   2786  N   LYS B   4   -33.024  33.701   4.172  1.00  0.23    N
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ATOM   2787  CA  LYS B   4  -31.626  33.390   4.219  1.00  0.23      C
ATOM   2788  C   LYS B   4  -31.282  32.929   5.594  1.00  0.23      C
ATOM   2789  O   LYS B   4  -31.667  33.518   6.603  1.00  0.23      O
ATOM   2790  CB  LYS B   4  -30.722  34.593   3.904  1.00  0.23      C
ATOM   2791  CG  LYS B   4  -30.861  35.101   2.467  1.00  0.23      C
ATOM   2792  CD  LYS B   4  -30.229  36.477   2.241  1.00  0.23      C
ATOM   2793  CE  LYS B   4  -31.032  37.624   2.856  1.00  0.23      C
ATOM   2794  NZ  LYS B   4  -30.320  38.907   2.659  1.00  0.23      N1+
ATOM   2795  H   LYS B   4  -33.282  34.648   4.377  1.00  0.00      H
ATOM   2796  HA  LYS B   4  -31.442  32.662   3.416  1.00  0.00      H
ATOM   2797 1HB  LYS B   4  -29.665  34.343   4.096  1.00  0.00      H
ATOM   2798 2HB  LYS B   4  -30.952  35.398   4.623  1.00  0.00      H
ATOM   2799 1HG  LYS B   4  -31.919  35.129   2.150  1.00  0.00      H
ATOM   2800 2HG  LYS B   4  -30.360  34.380   1.801  1.00  0.00      H
ATOM   2801 1HD  LYS B   4  -30.132  36.650   1.154  1.00  0.00      H
ATOM   2802 2HD  LYS B   4  -29.200  36.464   2.645  1.00  0.00      H
ATOM   2803 1HE  LYS B   4  -31.168  37.502   3.942  1.00  0.00      H
ATOM   2804 2HE  LYS B   4  -32.027  37.717   2.391  1.00  0.00      H
ATOM   2805 1HZ  LYS B   4  -30.819  39.699   3.042  1.00  0.00      H
ATOM   2806 2HZ  LYS B   4  -29.420  38.885   3.134  1.00  0.00      H
ATOM   2807 3HZ  LYS B   4  -30.141  39.110   1.685  1.00  0.00      H
ATOM   2808  N   PRO B   5  -30.550  31.853   5.616  1.00  0.25      N
ATOM   2809  CA  PRO B   5  -30.108  31.251   6.840  1.00  0.25      C
ATOM   2810  C   PRO B   5  -29.273  32.279   7.522  1.00  0.25      C
ATOM   2811  O   PRO B   5  -28.730  33.147   6.839  1.00  0.25      O
ATOM   2812  CB  PRO B   5  -29.231  30.082   6.411  1.00  0.25      C
ATOM   2813  CG  PRO B   5  -28.592  30.609   5.112  1.00  0.25      C
ATOM   2814  CD  PRO B   5  -29.678  31.516   4.507  1.00  0.25      C
ATOM   2815  HA  PRO B   5  -30.972  30.960   7.456  1.00  0.00      H
ATOM   2816 1HB  PRO B   5  -29.730  29.123   6.357  1.00  0.00      H
ATOM   2817 2HB  PRO B   5  -28.453  29.911   7.178  1.00  0.00      H
ATOM   2818 1HG  PRO B   5  -28.174  29.894   4.412  1.00  0.00      H
ATOM   2819 2HG  PRO B   5  -27.910  31.344   5.421  1.00  0.00      H
ATOM   2820 1HD  PRO B   5  -29.236  32.397   4.044  1.00  0.00      H
ATOM   2821 2HD  PRO B   5  -30.320  31.045   3.774  1.00  0.00      H
ATOM   2822  N   LYS B   6  -29.172  32.227   8.861  1.00  0.35      N
ATOM   2823  CA  LYS B   6  -28.336  33.181   9.520  1.00  0.35      C
ATOM   2824  C   LYS B   6  -27.209  32.429  10.136  1.00  0.35      C
ATOM   2825  O   LYS B   6  -27.391  31.333  10.666  1.00  0.35      O
ATOM   2826  CB  LYS B   6  -29.033  33.969  10.641  1.00  0.35      C
ATOM   2827  CG  LYS B   6  -30.016  35.023  10.127  1.00  0.35      C
ATOM   2828  CD  LYS B   6  -31.243  34.436   9.427  1.00  0.35      C
ATOM   2829  CE  LYS B   6  -32.218  35.501   8.920  1.00  0.35      C
ATOM   2830  NZ  LYS B   6  -33.370  34.856   8.253  1.00  0.35      N1+
ATOM   2831  H   LYS B   6  -29.531  31.470   9.434  1.00  0.00      H
ATOM   2832  HA  LYS B   6  -27.947  33.923   8.805  1.00  0.00      H
ATOM   2833 1HB  LYS B   6  -28.241  34.472  11.226  1.00  0.00      H
ATOM   2834 2HB  LYS B   6  -29.641  33.423  11.336  1.00  0.00      H
ATOM   2835 1HG  LYS B   6  -29.498  35.712   9.434  1.00  0.00      H
ATOM   2836 2HG  LYS B   6  -30.343  35.645  10.981  1.00  0.00      H
ATOM   2837 1HD  LYS B   6  -31.763  33.748  10.116  1.00  0.00      H
ATOM   2838 2HD  LYS B   6  -30.880  33.844   8.600  1.00  0.00      H
ATOM   2839 1HE  LYS B   6  -31.740  36.167   8.183  1.00  0.00      H
ATOM   2840 2HE  LYS B   6  -32.610  36.120   9.743  1.00  0.00      H
ATOM   2841 1HZ  LYS B   6  -33.989  35.514   7.805  1.00  0.00      H
ATOM   2842 2HZ  LYS B   6  -33.032  34.222   7.532  1.00  0.00      H
ATOM   2843 3HZ  LYS B   6  -33.939  34.311   8.889  1.00  0.00      H
ATOM   2844  N   VAL B   7  -25.995  32.999  10.051  1.00  0.35      N
ATOM   2845  CA  VAL B   7  -24.871  32.349  10.651  1.00  0.35      C
ATOM   2846  C   VAL B   7  -24.592  33.074  11.922  1.00  0.35      C
ATOM   2847  O   VAL B   7  -24.524  34.302  11.950  1.00  0.35      O
ATOM   2848  CB  VAL B   7  -23.627  32.383   9.806  1.00  0.35      C
ATOM   2849  CG1 VAL B   7  -23.210  33.847   9.585  1.00  0.35      C
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ATOM   2850  CG2 VAL B   7    -22.552  31.531  10.499  1.00  0.35      C
ATOM   2851  H   VAL B   7    -25.821  33.888   9.614  1.00  0.00      H
ATOM   2852  HA  VAL B   7    -25.120  31.291  10.831  1.00  0.00      H
ATOM   2853  HB  VAL B   7    -23.863  31.925   8.827  1.00  0.00      H
ATOM   2854 1HG1 VAL B   7    -22.471  33.901   8.765  1.00  0.00      H
ATOM   2855 2HG1 VAL B   7    -24.031  34.516   9.285  1.00  0.00      H
ATOM   2856 3HG1 VAL B   7    -22.693  34.280  10.456  1.00  0.00      H
ATOM   2857 1HG2 VAL B   7    -21.678  31.367   9.847  1.00  0.00      H
ATOM   2858 2HG2 VAL B   7    -22.176  32.022  11.412  1.00  0.00      H
ATOM   2859 3HG2 VAL B   7    -22.944  30.551  10.791  1.00  0.00      H
ATOM   2860  N   SER B   8    -24.448  32.318  13.023  1.00  0.17      N
ATOM   2861  CA  SER B   8    -24.199  32.937  14.287  1.00  0.17      C
ATOM   2862  C   SER B   8    -22.807  32.592  14.689  1.00  0.17      C
ATOM   2863  O   SER B   8    -22.347  31.470  14.481  1.00  0.17      O
ATOM   2864  CB  SER B   8    -25.131  32.446  15.407  1.00  0.17      C
ATOM   2865  OG  SER B   8    -24.819  33.105  16.625  1.00  0.17      O
ATOM   2866  H   SER B   8    -24.625  31.319  13.016  1.00  0.00      H
ATOM   2867  HA  SER B   8    -24.337  34.028  14.216  1.00  0.00      H
ATOM   2868 1HB  SER B   8    -25.073  31.358  15.536  1.00  0.00      H
ATOM   2869 2HB  SER B   8    -26.174  32.697  15.163  1.00  0.00      H
ATOM   2870  HG  SER B   8    -24.204  32.543  17.125  1.00  0.00      H
ATOM   2871  N   LEU B   9    -22.092  33.571  15.268  1.00  0.11      N
ATOM   2872  CA  LEU B   9    -20.747  33.327  15.682  1.00  0.11      C
ATOM   2873  C   LEU B   9    -20.696  33.497  17.164  1.00  0.11      C
ATOM   2874  O   LEU B   9    -21.139  34.512  17.700  1.00  0.11      O
ATOM   2875  CB  LEU B   9    -19.749  34.334  15.080  1.00  0.11      C
ATOM   2876  CG  LEU B   9    -18.287  34.121  15.512  1.00  0.11      C
ATOM   2877  CD1 LEU B   9    -17.732  32.785  14.988  1.00  0.11      C
ATOM   2878  CD2 LEU B   9    -17.418  35.324  15.111  1.00  0.11      C
ATOM   2879  H   LEU B   9    -22.472  34.471  15.510  1.00  0.00      H
ATOM   2880  HA  LEU B   9    -20.438  32.317  15.382  1.00  0.00      H
ATOM   2881 1HB  LEU B   9    -20.066  35.356  15.354  1.00  0.00      H
ATOM   2882 2HB  LEU B   9    -19.814  34.285  13.978  1.00  0.00      H
ATOM   2883  HG  LEU B   9    -18.324  33.885  16.546  1.00  0.00      H
ATOM   2884 1HD1 LEU B   9    -16.651  32.745  15.192  1.00  0.00      H
ATOM   2885 2HD1 LEU B   9    -18.211  31.936  15.488  1.00  0.00      H
ATOM   2886 3HD1 LEU B   9    -17.848  32.744  13.899  1.00  0.00      H
ATOM   2887 1HD2 LEU B   9    -16.368  35.176  15.400  1.00  0.00      H
ATOM   2888 2HD2 LEU B   9    -17.440  35.449  14.015  1.00  0.00      H
ATOM   2889 3HD2 LEU B   9    -17.775  36.256  15.559  1.00  0.00      H
ATOM   2890  N   ASN B  10    -20.176  32.478  17.872  1.00  0.17      N
ATOM   2891  CA  ASN B  10    -20.046  32.599  19.291  1.00  0.17      C
ATOM   2892  C   ASN B  10    -18.653  32.180  19.623  1.00  0.17      C
ATOM   2893  O   ASN B  10    -18.240  31.069  19.295  1.00  0.17      O
ATOM   2894  CB  ASN B  10    -20.992  31.672  20.070  1.00  0.17      C
ATOM   2895  CG  ASN B  10    -22.415  32.145  19.819  1.00  0.17      C
ATOM   2896  OD1 ASN B  10    -23.167  31.505  19.086  1.00  0.17      O
ATOM   2897  ND2 ASN B  10    -22.798  33.292  20.443  1.00  0.17      N
ATOM   2898  H   ASN B  10    -19.879  31.604  17.447  1.00  0.00      H
ATOM   2899  HA  ASN B  10    -20.331  33.609  19.576  1.00  0.00      H
ATOM   2900 1HB  ASN B  10    -20.745  31.729  21.143  1.00  0.00      H
ATOM   2901 2HB  ASN B  10    -20.916  30.627  19.757  1.00  0.00      H
ATOM   2902 1HD2 ASN B  10    -22.191  33.807  21.049  1.00  0.00      H
ATOM   2903 2HD2 ASN B  10    -23.731  33.618  20.254  1.00  0.00      H
ATOM   2904  N   PRO B  11    -17.897  33.038  20.245  1.00  0.35      N
ATOM   2905  CA  PRO B  11    -18.370  34.356  20.559  1.00  0.35      C
ATOM   2906  C   PRO B  11    -18.404  35.166  19.305  1.00  0.35      C
ATOM   2907  O   PRO B  11    -17.867  34.727  18.290  1.00  0.35      O
ATOM   2908  CB  PRO B  11    -17.403  34.908  21.604  1.00  0.35      C
ATOM   2909  CG  PRO B  11    -16.865  33.651  22.308  1.00  0.35      C
ATOM   2910  CD  PRO B  11    -16.938  32.559  21.228  1.00  0.35      C
ATOM   2911  HA  PRO B  11    -19.324  34.263  21.103  1.00  0.00      H
ATOM   2912 1HB  PRO B  11    -17.861  35.651  22.273  1.00  0.00      H
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ATOM   2913 2HB  PRO B  11   -16.571  35.402  21.082  1.00  0.00     H
ATOM   2914 1HG  PRO B  11   -17.522  33.393  23.155  1.00  0.00     H
ATOM   2915 2HG  PRO B  11   -15.851  33.769  22.721  1.00  0.00     H
ATOM   2916 1HD  PRO B  11   -15.961  32.431  20.733  1.00  0.00     H
ATOM   2917 2HD  PRO B  11   -17.234  31.578  21.626  1.00  0.00     H
ATOM   2918  N   PRO B  12   -19.030  36.309  19.364  1.00  0.52     N
ATOM   2919  CA  PRO B  12   -19.156  37.156  18.209  1.00  0.52     C
ATOM   2920  C   PRO B  12   -17.853  37.765  17.809  1.00  0.52     C
ATOM   2921  O   PRO B  12   -17.789  38.365  16.737  1.00  0.52     O
ATOM   2922  CB  PRO B  12   -20.215  38.194  18.568  1.00  0.52     C
ATOM   2923  CG  PRO B  12   -21.088  37.480  19.613  1.00  0.52     C
ATOM   2924  CD  PRO B  12   -20.128  36.495  20.299  1.00  0.52     C
ATOM   2925  HA  PRO B  12   -19.493  36.561  17.344  1.00  0.00     H
ATOM   2926 1HB  PRO B  12   -20.767  38.562  17.689  1.00  0.00     H
ATOM   2927 2HB  PRO B  12   -19.734  39.074  19.029  1.00  0.00     H
ATOM   2928 1HG  PRO B  12   -21.889  36.926  19.096  1.00  0.00     H
ATOM   2929 2HG  PRO B  12   -21.583  38.161  20.323  1.00  0.00     H
ATOM   2930 1HD  PRO B  12   -19.742  36.914  21.242  1.00  0.00     H
ATOM   2931 2HD  PRO B  12   -20.663  35.567  20.521  1.00  0.00     H
ATOM   2932  N   TRP B  13   -16.809  37.635  18.646  1.00  0.35     N
ATOM   2933  CA  TRP B  13   -15.559  38.278  18.359  1.00  0.35     C
ATOM   2934  C   TRP B  13   -15.107  37.850  16.998  1.00  0.35     C
ATOM   2935  O   TRP B  13   -14.934  36.662  16.731  1.00  0.35     O
ATOM   2936  CB  TRP B  13   -14.454  37.907  19.361  1.00  0.35     C
ATOM   2937  CG  TRP B  13   -14.839  38.183  20.795  1.00  0.35     C
ATOM   2938  CD1 TRP B  13   -14.961  37.307  21.833  1.00  0.35     C
ATOM   2939  CD2 TRP B  13   -15.219  39.470  21.302  1.00  0.35     C
ATOM   2940  NE1 TRP B  13   -15.382  37.969  22.961  1.00  0.35     N
ATOM   2941  CE2 TRP B  13   -15.549  39.302  22.647  1.00  0.35     C
ATOM   2942  CE3 TRP B  13   -15.297  40.691  20.695  1.00  0.35     C
ATOM   2943  CZ2 TRP B  13   -15.962  40.356  23.408  1.00  0.35     C
ATOM   2944  CZ3 TRP B  13   -15.707  41.756  21.468  1.00  0.35     C
ATOM   2945  CH2 TRP B  13   -16.031  41.590  22.798  1.00  0.35     C
ATOM   2946  H   TRP B  13   -16.882  37.089  19.485  1.00  0.00     H
ATOM   2947  HA  TRP B  13   -15.723  39.368  18.375  1.00  0.00     H
ATOM   2948 1HB  TRP B  13   -13.543  38.459  19.077  1.00  0.00     H
ATOM   2949 2HB  TRP B  13   -14.206  36.841  19.251  1.00  0.00     H
ATOM   2950  HD1 TRP B  13   -14.738  36.249  21.844  1.00  0.00     H
ATOM   2951  HE1 TRP B  13   -15.808  37.524  23.741  1.00  0.00     H
ATOM   2952  HE3 TRP B  13   -15.044  40.835  19.655  1.00  0.00     H
ATOM   2953  HZ2 TRP B  13   -16.229  40.119  24.420  1.00  0.00     H
ATOM   2954  HZ3 TRP B  13   -15.795  42.752  21.062  1.00  0.00     H
ATOM   2955  HH2 TRP B  13   -16.099  42.501  23.378  1.00  0.00     H
ATOM   2956  N   ASN B  14   -14.933  38.829  16.085  1.00  0.15     N
ATOM   2957  CA  ASN B  14   -14.506  38.539  14.747  1.00  0.15     C
ATOM   2958  C   ASN B  14   -13.076  38.108  14.777  1.00  0.15     C
ATOM   2959  O   ASN B  14   -12.681  37.185  14.064  1.00  0.15     O
ATOM   2960  CB  ASN B  14   -14.605  39.739  13.785  1.00  0.15     C
ATOM   2961  CG  ASN B  14   -13.588  40.802  14.181  1.00  0.15     C
ATOM   2962  OD1 ASN B  14   -13.408  41.115  15.357  1.00  0.15     O
ATOM   2963  ND2 ASN B  14   -12.882  41.367  13.165  1.00  0.15     N
ATOM   2964  H   ASN B  14   -15.118  39.805  16.295  1.00  0.00     H
ATOM   2965  HA  ASN B  14   -15.111  37.712  14.342  1.00  0.00     H
ATOM   2966 1HB  ASN B  14   -15.612  40.188  13.806  1.00  0.00     H
ATOM   2967 2HB  ASN B  14   -14.421  39.365  12.763  1.00  0.00     H
ATOM   2968 1HD2 ASN B  14   -12.987  41.087  12.202  1.00  0.00     H
ATOM   2969 2HD2 ASN B  14   -12.217  42.087  13.380  1.00  0.00     H
ATOM   2970  N   ARG B  15   -12.257  38.773  15.615  1.00  0.13     N
ATOM   2971  CA  ARG B  15   -10.859  38.466  15.668  1.00  0.13     C
ATOM   2972  C   ARG B  15   -10.645  37.619  16.872  1.00  0.13     C
ATOM   2973  O   ARG B  15   -11.086  37.958  17.969  1.00  0.13     O
ATOM   2974  CB  ARG B  15    -9.961  39.702  15.860  1.00  0.13     C
ATOM   2975  CG  ARG B  15    -9.990  40.695  14.698  1.00  0.13     C
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ATOM   2976  CD  ARG B  15    -9.087  41.910  14.925  1.00  0.13     C
ATOM   2977  NE  ARG B  15    -9.233  42.805  13.742  1.00  0.13     N1+
ATOM   2978  CZ  ARG B  15    -8.137  43.184  13.023  1.00  0.13     C
ATOM   2979  NH1 ARG B  15    -6.892  42.769  13.396  1.00  0.13     N
ATOM   2980  NH2 ARG B  15    -8.289  43.984  11.926  1.00  0.13     N
ATOM   2981  H   ARG B  15   -12.591  39.606  16.079  1.00  0.00     H
ATOM   2982  HA  ARG B  15   -10.563  37.963  14.736  1.00  0.00     H
ATOM   2983  1HB ARG B  15    -8.996  39.350  16.214  1.00  0.00     H
ATOM   2984  2HB ARG B  15   -10.354  40.254  16.738  1.00  0.00     H
ATOM   2985  1HG ARG B  15   -11.007  41.090  14.649  1.00  0.00     H
ATOM   2986  2HG ARG B  15    -9.785  40.221  13.726  1.00  0.00     H
ATOM   2987  1HD ARG B  15    -8.048  41.638  15.153  1.00  0.00     H
ATOM   2988  2HD ARG B  15    -9.458  42.433  15.807  1.00  0.00     H
ATOM   2989  HE  ARG B  15    -9.921  43.526  13.751  1.00  0.00     H
ATOM   2990  1HH1 ARG B  15    -6.719  42.203  14.196  1.00  0.00     H
ATOM   2991  2HH1 ARG B  15    -6.069  43.121  12.958  1.00  0.00     H
ATOM   2992  1HH2 ARG B  15    -7.535  44.013  11.277  1.00  0.00     H
ATOM   2993  2HH2 ARG B  15    -9.189  43.955  11.491  1.00  0.00     H
ATOM   2994  N   ILE B  16    -9.959  36.476  16.699  1.00  0.12     N
ATOM   2995  CA  ILE B  16    -9.719  35.645  17.838  1.00  0.12     C
ATOM   2996  C   ILE B  16    -8.300  35.198  17.781  1.00  0.12     C
ATOM   2997  O   ILE B  16    -7.583  35.472  16.820  1.00  0.12     O
ATOM   2998  CB  ILE B  16   -10.558  34.399  17.883  1.00  0.12     C
ATOM   2999  CG1 ILE B  16   -10.236  33.483  16.690  1.00  0.12     C
ATOM   3000  CG2 ILE B  16   -12.035  34.818  17.972  1.00  0.12     C
ATOM   3001  CD1 ILE B  16   -10.816  32.077  16.840  1.00  0.12     C
ATOM   3002  H   ILE B  16    -9.589  36.173  15.804  1.00  0.00     H
ATOM   3003  HA  ILE B  16    -9.806  36.229  18.761  1.00  0.00     H
ATOM   3004  HB  ILE B  16   -10.323  33.855  18.816  1.00  0.00     H
ATOM   3005  1HG1 ILE B  16    -9.151  33.372  16.527  1.00  0.00     H
ATOM   3006  2HG1 ILE B  16   -10.632  33.939  15.766  1.00  0.00     H
ATOM   3007  1HG2 ILE B  16   -12.707  33.959  18.128  1.00  0.00     H
ATOM   3008  2HG2 ILE B  16   -12.205  35.507  18.814  1.00  0.00     H
ATOM   3009  3HG2 ILE B  16   -12.376  35.323  17.052  1.00  0.00     H
ATOM   3010  1HD1 ILE B  16   -10.934  31.593  15.860  1.00  0.00     H
ATOM   3011  2HD1 ILE B  16   -10.156  31.437  17.441  1.00  0.00     H
ATOM   3012  3HD1 ILE B  16   -11.792  32.108  17.336  1.00  0.00     H
ATOM   3013  N   PHE B  17    -7.862  34.506  18.848  1.00  0.17     N
ATOM   3014  CA  PHE B  17    -6.527  33.996  18.904  1.00  0.17     C
ATOM   3015  C   PHE B  17    -6.595  32.557  18.543  1.00  0.17     C
ATOM   3016  O   PHE B  17    -7.645  31.923  18.627  1.00  0.17     O
ATOM   3017  CB  PHE B  17    -5.886  33.999  20.300  1.00  0.17     C
ATOM   3018  CG  PHE B  17    -5.562  35.386  20.720  1.00  0.17     C
ATOM   3019  CD1 PHE B  17    -4.468  36.028  20.192  1.00  0.17     C
ATOM   3020  CD2 PHE B  17    -6.337  36.026  21.657  1.00  0.17     C
ATOM   3021  CE1 PHE B  17    -4.154  37.305  20.585  1.00  0.17     C
ATOM   3022  CE2 PHE B  17    -6.027  37.303  22.057  1.00  0.17     C
ATOM   3023  CZ  PHE B  17    -4.935  37.939  21.518  1.00  0.17     C
ATOM   3024  H   PHE B  17    -8.467  34.178  19.583  1.00  0.00     H
ATOM   3025  HA  PHE B  17    -5.913  34.589  18.229  1.00  0.00     H
ATOM   3026  1HB PHE B  17    -4.946  33.448  20.184  1.00  0.00     H
ATOM   3027  2HB PHE B  17    -6.495  33.466  21.041  1.00  0.00     H
ATOM   3028  HD1 PHE B  17    -3.883  35.515  19.440  1.00  0.00     H
ATOM   3029  HD2 PHE B  17    -7.205  35.518  22.059  1.00  0.00     H
ATOM   3030  HE1 PHE B  17    -3.236  37.726  20.300  1.00  0.00     H
ATOM   3031  HE2 PHE B  17    -6.677  37.770  22.777  1.00  0.00     H
ATOM   3032  HZ  PHE B  17    -4.353  38.631  22.047  1.00  0.00     H
ATOM   3033  N   LYS B  18    -5.446  32.008  18.119  1.00  0.22     N
ATOM   3034  CA  LYS B  18    -5.403  30.623  17.781  1.00  0.22     C
ATOM   3035  C   LYS B  18    -5.558  29.867  19.056  1.00  0.22     C
ATOM   3036  O   LYS B  18    -5.134  30.320  20.119  1.00  0.22     O
ATOM   3037  CB  LYS B  18    -4.077  30.203  17.126  1.00  0.22     C
ATOM   3038  CG  LYS B  18    -2.859  30.461  18.012  1.00  0.22     C
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ATOM   3039  CD  LYS B  18    -1.586  29.780  17.511  1.00  0.22    C
ATOM   3040  CE  LYS B  18    -0.375  29.996  18.418  1.00  0.22    C
ATOM   3041  NZ  LYS B  18     0.743  29.138  17.967  1.00  0.22    N1+
ATOM   3042  H   LYS B  18    -4.641  32.589  17.925  1.00  0.00    H
ATOM   3043  HA  LYS B  18    -6.267  30.489  17.128  1.00  0.00    H
ATOM   3044 1HB  LYS B  18    -3.964  30.718  16.156  1.00  0.00    H
ATOM   3045 2HB  LYS B  18    -4.150  29.124  16.902  1.00  0.00    H
ATOM   3046 1HG  LYS B  18    -3.038  30.058  19.019  1.00  0.00    H
ATOM   3047 2HG  LYS B  18    -2.689  31.546  18.128  1.00  0.00    H
ATOM   3048 1HD  LYS B  18    -1.354  30.137  16.492  1.00  0.00    H
ATOM   3049 2HD  LYS B  18    -1.792  28.698  17.428  1.00  0.00    H
ATOM   3050 1HE  LYS B  18    -0.596  29.719  19.461  1.00  0.00    H
ATOM   3051 2HE  LYS B  18    -0.024  31.038  18.411  1.00  0.00    H
ATOM   3052 1HZ  LYS B  18     1.576  29.272  18.528  1.00  0.00    H
ATOM   3053 2HZ  LYS B  18     0.522  28.153  18.013  1.00  0.00    H
ATOM   3054 3HZ  LYS B  18     1.016  29.349  17.015  1.00  0.00    H
ATOM   3055  N   GLY B  19    -6.207  28.692  18.978  1.00  0.21    N
ATOM   3056  CA  GLY B  19    -6.383  27.886  20.146  1.00  0.21    C
ATOM   3057  C   GLY B  19    -7.708  28.214  20.746  1.00  0.21    C
ATOM   3058  O   GLY B  19    -8.192  27.501  21.623  1.00  0.21    O
ATOM   3059  H   GLY B  19    -6.495  28.327  18.071  1.00  0.00    H
ATOM   3060 1HA  GLY B  19    -5.676  28.245  20.917  1.00  0.00    H
ATOM   3061 2HA  GLY B  19    -6.080  26.838  20.096  1.00  0.00    H
ATOM   3062  N   GLU B  20    -8.338  29.306  20.281  1.00  0.23    N
ATOM   3063  CA  GLU B  20    -9.610  29.665  20.830  1.00  0.23    C
ATOM   3064  C   GLU B  20   -10.642  28.792  20.202  1.00  0.23    C
ATOM   3065  O   GLU B  20   -10.428  28.231  19.128  1.00  0.23    O
ATOM   3066  CB  GLU B  20   -10.002  31.130  20.574  1.00  0.23    C
ATOM   3067  CG  GLU B  20    -9.106  32.113  21.327  1.00  0.23    C
ATOM   3068  CD  GLU B  20    -9.228  31.774  22.806  1.00  0.23    C
ATOM   3069  OE1 GLU B  20   -10.378  31.534  23.263  1.00  0.23    O
ATOM   3070  OE2 GLU B  20    -8.174  31.735  23.495  1.00  0.23    O1-
ATOM   3071  H   GLU B  20    -7.903  29.958  19.641  1.00  0.00    H
ATOM   3072  HA  GLU B  20    -9.596  29.463  21.915  1.00  0.00    H
ATOM   3073 1HB  GLU B  20   -11.054  31.273  20.883  1.00  0.00    H
ATOM   3074 2HB  GLU B  20    -9.998  31.319  19.493  1.00  0.00    H
ATOM   3075 1HG  GLU B  20    -9.443  33.148  21.165  1.00  0.00    H
ATOM   3076 2HG  GLU B  20    -8.053  32.040  21.031  1.00  0.00    H
ATOM   3077  N   ASN B  21   -11.794  28.642  20.879  1.00  0.16    N
ATOM   3078  CA  ASN B  21   -12.833  27.815  20.346  1.00  0.16    C
ATOM   3079  C   ASN B  21   -13.814  28.715  19.677  1.00  0.16    C
ATOM   3080  O   ASN B  21   -14.134  29.792  20.179  1.00  0.16    O
ATOM   3081  CB  ASN B  21   -13.589  27.007  21.415  1.00  0.16    C
ATOM   3082  CG  ASN B  21   -12.613  25.981  21.970  1.00  0.16    C
ATOM   3083  OD1 ASN B  21   -11.595  25.692  21.347  1.00  0.16    O
ATOM   3084  ND2 ASN B  21   -12.923  25.418  23.168  1.00  0.16    N
ATOM   3085  H   ASN B  21   -12.005  29.178  21.704  1.00  0.00    H
ATOM   3086  HA  ASN B  21   -12.376  27.142  19.624  1.00  0.00    H
ATOM   3087 1HB  ASN B  21   -14.424  26.471  20.932  1.00  0.00    H
ATOM   3088 2HB  ASN B  21   -13.999  27.666  22.196  1.00  0.00    H
ATOM   3089 1HD2 ASN B  21   -13.739  25.683  23.687  1.00  0.00    H
ATOM   3090 2HD2 ASN B  21   -12.261  24.760  23.540  1.00  0.00    H
ATOM   3091  N   VAL B  22   -14.289  28.299  18.490  1.00  0.07    N
ATOM   3092  CA  VAL B  22   -15.243  29.093  17.780  1.00  0.07    C
ATOM   3093  C   VAL B  22   -16.438  28.234  17.559  1.00  0.07    C
ATOM   3094  O   VAL B  22   -16.312  27.053  17.236  1.00  0.07    O
ATOM   3095  CB  VAL B  22   -14.753  29.535  16.431  1.00  0.07    C
ATOM   3096  CG1 VAL B  22   -15.891  30.274  15.710  1.00  0.07    C
ATOM   3097  CG2 VAL B  22   -13.481  30.379  16.626  1.00  0.07    C
ATOM   3098  H   VAL B  22   -14.083  27.370  18.135  1.00  0.00    H
ATOM   3099  HA  VAL B  22   -15.511  29.985  18.368  1.00  0.00    H
ATOM   3100  HB  VAL B  22   -14.492  28.689  15.799  1.00  0.00    H
ATOM   3101 1HG1 VAL B  22   -15.529  30.772  14.795  1.00  0.00    H
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ATOM   3102 2HG1 VAL B  22   -16.697  29.591  15.399  1.00  0.00    H
ATOM   3103 3HG1 VAL B  22   -16.314  31.040  16.376  1.00  0.00    H
ATOM   3104 1HG2 VAL B  22   -13.124  30.786  15.667  1.00  0.00    H
ATOM   3105 2HG2 VAL B  22   -13.699  31.230  17.292  1.00  0.00    H
ATOM   3106 3HG2 VAL B  22   -12.657  29.793  17.064  1.00  0.00    H
ATOM   3107  N   THR B  23   -17.641  28.800  17.762  1.00  0.06    N
ATOM   3108  CA  THR B  23   -18.823  28.028  17.530  1.00  0.06    C
ATOM   3109  C   THR B  23   -19.615  28.740  16.486  1.00  0.06    C
ATOM   3110  O   THR B  23   -19.909  29.927  16.612  1.00  0.06    O
ATOM   3111  CB  THR B  23   -19.704  27.891  18.737  1.00  0.06    C
ATOM   3112  OG1 THR B  23   -18.992  27.254  19.787  1.00  0.06    O
ATOM   3113  CG2 THR B  23   -20.936  27.053  18.353  1.00  0.06    C
ATOM   3114  H   THR B  23   -17.770  29.719  18.174  1.00  0.00    H
ATOM   3115  HA  THR B  23   -18.554  27.016  17.215  1.00  0.00    H
ATOM   3116  HB  THR B  23   -20.030  28.886  19.078  1.00  0.00    H
ATOM   3117  HG1 THR B  23   -19.557  27.282  20.569  1.00  0.00    H
ATOM   3118 1HG2 THR B  23   -21.569  26.856  19.233  1.00  0.00    H
ATOM   3119 2HG2 THR B  23   -21.569  27.557  17.607  1.00  0.00    H
ATOM   3120 3HG2 THR B  23   -20.629  26.075  17.945  1.00  0.00    H
ATOM   3121  N   LEU B  24   -19.967  28.020  15.407  1.00  0.06    N
ATOM   3122  CA  LEU B  24   -20.752  28.613  14.368  1.00  0.06    C
ATOM   3123  C   LEU B  24   -22.058  27.900  14.393  1.00  0.06    C
ATOM   3124  O   LEU B  24   -22.104  26.671  14.388  1.00  0.06    O
ATOM   3125  CB  LEU B  24   -20.163  28.405  12.965  1.00  0.06    C
ATOM   3126  CG  LEU B  24   -18.783  29.062  12.774  1.00  0.06    C
ATOM   3127  CD1 LEU B  24   -18.246  28.827  11.352  1.00  0.06    C
ATOM   3128  CD2 LEU B  24   -18.814  30.548  13.167  1.00  0.06    C
ATOM   3129  H   LEU B  24   -19.673  27.055  15.277  1.00  0.00    H
ATOM   3130  HA  LEU B  24   -20.868  29.681  14.551  1.00  0.00    H
ATOM   3131 1HB  LEU B  24   -20.876  28.847  12.246  1.00  0.00    H
ATOM   3132 2HB  LEU B  24   -20.105  27.329  12.729  1.00  0.00    H
ATOM   3133  HG  LEU B  24   -18.071  28.564  13.461  1.00  0.00    H
ATOM   3134 1HD1 LEU B  24   -17.231  29.242  11.246  1.00  0.00    H
ATOM   3135 2HD1 LEU B  24   -18.193  27.751  11.117  1.00  0.00    H
ATOM   3136 3HD1 LEU B  24   -18.893  29.306  10.600  1.00  0.00    H
ATOM   3137 1HD2 LEU B  24   -17.820  30.978  12.972  1.00  0.00    H
ATOM   3138 2HD2 LEU B  24   -19.551  31.110  12.571  1.00  0.00    H
ATOM   3139 3HD2 LEU B  24   -19.058  30.667  14.225  1.00  0.00    H
ATOM   3140  N   THR B  25   -23.167  28.659  14.441  1.00  0.28    N
ATOM   3141  CA  THR B  25   -24.439  28.009  14.453  1.00  0.28    C
ATOM   3142  C   THR B  25   -25.210  28.557  13.308  1.00  0.28    C
ATOM   3143  O   THR B  25   -25.220  29.760  13.059  1.00  0.28    O
ATOM   3144  CB  THR B  25   -25.235  28.276  15.697  1.00  0.28    C
ATOM   3145  OG1 THR B  25   -24.523  27.828  16.841  1.00  0.28    O
ATOM   3146  CG2 THR B  25   -26.580  27.539  15.588  1.00  0.28    C
ATOM   3147  H   THR B  25   -23.128  29.672  14.385  1.00  0.00    H
ATOM   3148  HA  THR B  25   -24.321  26.920  14.354  1.00  0.00    H
ATOM   3149  HB  THR B  25   -25.448  29.352  15.810  1.00  0.00    H
ATOM   3150  HG1 THR B  25   -23.678  28.304  16.823  1.00  0.00    H
ATOM   3151 1HG2 THR B  25   -27.114  27.581  16.552  1.00  0.00    H
ATOM   3152 2HG2 THR B  25   -27.247  27.990  14.837  1.00  0.00    H
ATOM   3153 3HG2 THR B  25   -26.441  26.473  15.342  1.00  0.00    H
ATOM   3154  N   CYS B  26   -25.878  27.669  12.565  1.00  0.52    N
ATOM   3155  CA  CYS B  26   -26.616  28.143  11.446  1.00  0.52    C
ATOM   3156  C   CYS B  26   -28.050  27.883  11.751  1.00  0.52    C
ATOM   3157  O   CYS B  26   -28.460  26.734  11.908  1.00  0.52    O
ATOM   3158  CB  CYS B  26   -26.230  27.356  10.198  1.00  0.52    C
ATOM   3159  SG  CYS B  26   -27.098  27.867   8.709  1.00  0.52    S
ATOM   3160  H   CYS B  26   -25.872  26.670  12.726  1.00  0.00    H
ATOM   3161  HA  CYS B  26   -26.399  29.195  11.235  1.00  0.00    H
ATOM   3162 1HB  CYS B  26   -26.355  26.271  10.346  1.00  0.00    H
ATOM   3163 2HB  CYS B  26   -25.174  27.547  10.007  1.00  0.00    H
ATOM   3164  N   ASN B  27   -28.853  28.959  11.836  1.00  0.35    N
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ATOM   3165  CA  ASN B  27   -30.232  28.793  12.176  1.00  0.35      C
ATOM   3166  C   ASN B  27   -31.043  29.100  10.964  1.00  0.35      C
ATOM   3167  O   ASN B  27   -30.620  29.856  10.092  1.00  0.35      O
ATOM   3168  CB  ASN B  27   -30.713  29.749  13.280  1.00  0.35      C
ATOM   3169  CG  ASN B  27   -30.594  31.169  12.743  1.00  0.35      C
ATOM   3170  OD1 ASN B  27   -29.551  31.568  12.228  1.00  0.35      O
ATOM   3171  ND2 ASN B  27   -31.698  31.954  12.855  1.00  0.35      N
ATOM   3172  H   ASN B  27   -28.543  29.920  11.683  1.00  0.00      H
ATOM   3173  HA  ASN B  27   -30.415  27.767  12.532  1.00  0.00      H
ATOM   3174 1HB  ASN B  27   -30.081  29.665  14.180  1.00  0.00      H
ATOM   3175 2HB  ASN B  27   -31.746  29.482  13.557  1.00  0.00      H
ATOM   3176 1HD2 ASN B  27   -32.530  31.636  13.316  1.00  0.00      H
ATOM   3177 2HD2 ASN B  27   -31.598  32.913  12.574  1.00  0.00      H
ATOM   3178  N   GLY B  28   -32.237  28.485  10.876  1.00  0.15      N
ATOM   3179  CA  GLY B  28   -33.101  28.725   9.762  1.00  0.15      C
ATOM   3180  C   GLY B  28   -33.969  27.521   9.623  1.00  0.15      C
ATOM   3181  O   GLY B  28   -33.839  26.561  10.382  1.00  0.15      O
ATOM   3182  H   GLY B  28   -32.528  27.749  11.502  1.00  0.00      H
ATOM   3183 1HA  GLY B  28   -32.514  28.852   8.837  1.00  0.00      H
ATOM   3184 2HA  GLY B  28   -33.710  29.632   9.918  1.00  0.00      H
ATOM   3185  N   ASN B  29   -34.882  27.537   8.633  1.00  0.16      N
ATOM   3186  CA  ASN B  29   -35.730  26.399   8.454  1.00  0.16      C
ATOM   3187  C   ASN B  29   -34.852  25.276   8.021  1.00  0.16      C
ATOM   3188  O   ASN B  29   -33.866  25.478   7.315  1.00  0.16      O
ATOM   3189  CB  ASN B  29   -36.820  26.580   7.382  1.00  0.16      C
ATOM   3190  CG  ASN B  29   -37.876  27.535   7.919  1.00  0.16      C
ATOM   3191  OD1 ASN B  29   -37.878  27.893   9.096  1.00  0.16      O
ATOM   3192  ND2 ASN B  29   -38.816  27.949   7.029  1.00  0.16      N
ATOM   3193  H   ASN B  29   -35.006  28.318   8.013  1.00  0.00      H
ATOM   3194  HA  ASN B  29   -36.207  26.143   9.419  1.00  0.00      H
ATOM   3195 1HB  ASN B  29   -37.363  25.641   7.240  1.00  0.00      H
ATOM   3196 2HB  ASN B  29   -36.417  26.982   6.449  1.00  0.00      H
ATOM   3197 1HD2 ASN B  29   -38.833  27.631   6.078  1.00  0.00      H
ATOM   3198 2HD2 ASN B  29   -39.532  28.562   7.380  1.00  0.00      H
ATOM   3199  N   ASN B  30   -35.187  24.051   8.463  1.00  0.16      N
ATOM   3200  CA  ASN B  30   -34.377  22.921   8.127  1.00  0.16      C
ATOM   3201  C   ASN B  30   -35.268  21.823   7.645  1.00  0.16      C
ATOM   3202  O   ASN B  30   -36.420  21.713   8.060  1.00  0.16      O
ATOM   3203  CB  ASN B  30   -33.609  22.375   9.339  1.00  0.16      C
ATOM   3204  CG  ASN B  30   -32.795  21.178   8.886  1.00  0.16      C
ATOM   3205  OD1 ASN B  30   -32.210  21.159   7.805  1.00  0.16      O
ATOM   3206  ND2 ASN B  30   -32.781  20.126   9.746  1.00  0.16      N
ATOM   3207  H   ASN B  30   -36.004  23.852   9.015  1.00  0.00      H
ATOM   3208  HA  ASN B  30   -33.660  23.196   7.338  1.00  0.00      H
ATOM   3209 1HB  ASN B  30   -34.307  22.117  10.152  1.00  0.00      H
ATOM   3210 2HB  ASN B  30   -32.904  23.133   9.720  1.00  0.00      H
ATOM   3211 1HD2 ASN B  30   -33.323  20.099  10.587  1.00  0.00      H
ATOM   3212 2HD2 ASN B  30   -32.195  19.340   9.478  1.00  0.00      H
ATOM   3213  N   PHE B  31   -34.745  20.987   6.724  1.00  0.12      N
ATOM   3214  CA  PHE B  31   -35.486  19.863   6.236  1.00  0.12      C
ATOM   3215  C   PHE B  31   -35.228  18.765   7.212  1.00  0.12      C
ATOM   3216  O   PHE B  31   -34.243  18.805   7.945  1.00  0.12      O
ATOM   3217  CB  PHE B  31   -35.024  19.385   4.850  1.00  0.12      C
ATOM   3218  CG  PHE B  31   -35.870  18.225   4.458  1.00  0.12      C
ATOM   3219  CD1 PHE B  31   -37.137  18.422   3.958  1.00  0.12      C
ATOM   3220  CD2 PHE B  31   -35.395  16.940   4.581  1.00  0.12      C
ATOM   3221  CE1 PHE B  31   -37.919  17.353   3.589  1.00  0.12      C
ATOM   3222  CE2 PHE B  31   -36.173  15.867   4.215  1.00  0.12      C
ATOM   3223  CZ  PHE B  31   -37.439  16.073   3.720  1.00  0.12      C
ATOM   3224  H   PHE B  31   -33.732  20.891   6.678  1.00  0.00      H
ATOM   3225  HA  PHE B  31   -36.560  20.108   6.225  1.00  0.00      H
ATOM   3226 1HB  PHE B  31   -33.955  19.120   4.883  1.00  0.00      H
ATOM   3227 2HB  PHE B  31   -35.127  20.202   4.121  1.00  0.00      H
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ATOM   3228  HD1 PHE B  31     -37.521  19.428   3.830  1.00  0.00      H
ATOM   3229  HD2 PHE B  31     -34.399  16.800   4.975  1.00  0.00      H
ATOM   3230  HE1 PHE B  31     -38.916  17.520   3.188  1.00  0.00      H
ATOM   3231  HE2 PHE B  31     -35.783  14.857   4.316  1.00  0.00      H
ATOM   3232  HZ  PHE B  31     -38.053  15.224   3.428  1.00  0.00      H
ATOM   3233  N   PHE B  32     -36.111  17.753   7.268  1.00  0.11      N
ATOM   3234  CA  PHE B  32     -35.851  16.728   8.229  1.00  0.11      C
ATOM   3235  C   PHE B  32     -34.911  15.762   7.598  1.00  0.11      C
ATOM   3236  O   PHE B  32     -35.322  14.780   6.982  1.00  0.11      O
ATOM   3237  CB  PHE B  32     -37.114  15.971   8.670  1.00  0.11      C
ATOM   3238  CG  PHE B  32     -37.971  16.991   9.336  1.00  0.11      C
ATOM   3239  CD1 PHE B  32     -38.800  17.790   8.583  1.00  0.11      C
ATOM   3240  CD2 PHE B  32     -37.941  17.160  10.700  1.00  0.11      C
ATOM   3241  CE1 PHE B  32     -39.597  18.739   9.178  1.00  0.11      C
ATOM   3242  CE2 PHE B  32     -38.735  18.108  11.300  1.00  0.11      C
ATOM   3243  CZ  PHE B  32     -39.564  18.899  10.542  1.00  0.11      C
ATOM   3244  H   PHE B  32     -36.832  17.591   6.586  1.00  0.00      H
ATOM   3245  HA  PHE B  32     -35.409  17.166   9.143  1.00  0.00      H
ATOM   3246 1HB  PHE B  32     -36.811  15.166   9.358  1.00  0.00      H
ATOM   3247 2HB  PHE B  32     -37.630  15.498   7.820  1.00  0.00      H
ATOM   3248  HD1 PHE B  32     -38.864  17.652   7.507  1.00  0.00      H
ATOM   3249  HD2 PHE B  32     -37.287  16.539  11.307  1.00  0.00      H
ATOM   3250  HE1 PHE B  32     -40.252  19.360   8.572  1.00  0.00      H
ATOM   3251  HE2 PHE B  32     -38.706  18.233  12.380  1.00  0.00      H
ATOM   3252  HZ  PHE B  32     -40.190  19.649  11.019  1.00  0.00      H
ATOM   3253  N   GLU B  33     -33.600  16.034   7.738  1.00  0.10      N
ATOM   3254  CA  GLU B  33     -32.616  15.164   7.171  1.00  0.10      C
ATOM   3255  C   GLU B  33     -31.455  15.127   8.108  1.00  0.10      C
ATOM   3256  O   GLU B  33     -31.273  16.029   8.926  1.00  0.10      O
ATOM   3257  CB  GLU B  33     -32.084  15.638   5.809  1.00  0.10      C
ATOM   3258  CG  GLU B  33     -31.401  17.006   5.863  1.00  0.10      C
ATOM   3259  CD  GLU B  33     -30.934  17.340   4.456  1.00  0.10      C
ATOM   3260  OE1 GLU B  33     -30.393  16.424   3.782  1.00  0.10      O
ATOM   3261  OE2 GLU B  33     -31.113  18.515   4.035  1.00  0.10      O1-
ATOM   3262  H   GLU B  33     -33.258  16.896   8.139  1.00  0.00      H
ATOM   3263  HA  GLU B  33     -33.037  14.148   7.082  1.00  0.00      H
ATOM   3264 1HB  GLU B  33     -32.872  15.591   5.047  1.00  0.00      H
ATOM   3265 2HB  GLU B  33     -31.344  14.879   5.494  1.00  0.00      H
ATOM   3266 1HG  GLU B  33     -30.551  16.931   6.547  1.00  0.00      H
ATOM   3267 2HG  GLU B  33     -32.064  17.799   6.243  1.00  0.00      H
ATOM   3268  N   VAL B  34     -30.644  14.058   8.020  1.00  0.09      N
ATOM   3269  CA  VAL B  34     -29.511  13.941   8.884  1.00  0.09      C
ATOM   3270  C   VAL B  34     -28.559  15.048   8.570  1.00  0.09      C
ATOM   3271  O   VAL B  34     -28.077  15.734   9.470  1.00  0.09      O
ATOM   3272  CB  VAL B  34     -28.792  12.637   8.712  1.00  0.09      C
ATOM   3273  CG1 VAL B  34     -27.594  12.606   9.674  1.00  0.09      C
ATOM   3274  CG2 VAL B  34     -29.797  11.497   8.948  1.00  0.09      C
ATOM   3275  H   VAL B  34     -30.815  13.314   7.366  1.00  0.00      H
ATOM   3276  HA  VAL B  34     -29.835  14.056   9.932  1.00  0.00      H
ATOM   3277  HB  VAL B  34     -28.403  12.546   7.681  1.00  0.00      H
ATOM   3278 1HG1 VAL B  34     -27.078  11.632   9.646  1.00  0.00      H
ATOM   3279 2HG1 VAL B  34     -26.840  13.370   9.421  1.00  0.00      H
ATOM   3280 3HG1 VAL B  34     -27.914  12.776  10.716  1.00  0.00      H
ATOM   3281 1HG2 VAL B  34     -29.295  10.514   8.942  1.00  0.00      H
ATOM   3282 2HG2 VAL B  34     -30.288  11.600   9.931  1.00  0.00      H
ATOM   3283 3HG2 VAL B  34     -30.583  11.448   8.178  1.00  0.00      H
ATOM   3284  N   SER B  35     -28.277  15.279   7.274  1.00  0.11      N
ATOM   3285  CA  SER B  35     -27.364  16.335   6.942  1.00  0.11      C
ATOM   3286  C   SER B  35     -28.183  17.559   6.696  1.00  0.11      C
ATOM   3287  O   SER B  35     -28.493  17.913   5.559  1.00  0.11      O
ATOM   3288  CB  SER B  35     -26.512  16.040   5.689  1.00  0.11      C
ATOM   3289  OG  SER B  35     -27.339  15.843   4.552  1.00  0.11      O
ATOM   3290  H   SER B  35     -28.722  14.814   6.501  1.00  0.00      H
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ATOM   3291  HA  SER B  35  -26.655  16.496   7.772  1.00  0.00     H
ATOM   3292 1HB  SER B  35  -25.922  15.124   5.827  1.00  0.00     H
ATOM   3293 2HB  SER B  35  -25.813  16.882   5.528  1.00  0.00     H
ATOM   3294  HG  SER B  35  -27.978  16.589   4.533  1.00  0.00     H
ATOM   3295  N   SER B  36  -28.548  18.243   7.794  1.00  0.27     N
ATOM   3296  CA  SER B  36  -29.398  19.394   7.742  1.00  0.27     C
ATOM   3297  C   SER B  36  -28.707  20.528   7.057  1.00  0.27     C
ATOM   3298  O   SER B  36  -29.282  21.190   6.194  1.00  0.27     O
ATOM   3299  CB  SER B  36  -29.776  19.889   9.147  1.00  0.27     C
ATOM   3300  OG  SER B  36  -30.410  18.846   9.871  1.00  0.27     O
ATOM   3301  H   SER B  36  -28.475  17.775   8.692  1.00  0.00     H
ATOM   3302  HA  SER B  36  -30.315  19.170   7.176  1.00  0.00     H
ATOM   3303 1HB  SER B  36  -30.346  20.826   9.116  1.00  0.00     H
ATOM   3304 2HB  SER B  36  -28.841  20.156   9.675  1.00  0.00     H
ATOM   3305  HG  SER B  36  -30.330  19.061  10.811  1.00  0.00     H
ATOM   3306  N   THR B  37  -27.431  20.777   7.399  1.00  0.48     N
ATOM   3307  CA  THR B  37  -26.842  21.964   6.858  1.00  0.48     C
ATOM   3308  C   THR B  37  -25.567  21.675   6.148  1.00  0.48     C
ATOM   3309  O   THR B  37  -24.911  20.660   6.377  1.00  0.48     O
ATOM   3310  CB  THR B  37  -26.522  22.984   7.901  1.00  0.48     C
ATOM   3311  OG1 THR B  37  -25.965  24.129   7.283  1.00  0.48     O
ATOM   3312  CG2 THR B  37  -25.515  22.381   8.896  1.00  0.48     C
ATOM   3313  H   THR B  37  -26.848  20.135   7.907  1.00  0.00     H
ATOM   3314  HA  THR B  37  -27.514  22.445   6.132  1.00  0.00     H
ATOM   3315  HB  THR B  37  -27.418  23.228   8.460  1.00  0.00     H
ATOM   3316  HG1 THR B  37  -25.716  24.744   7.987  1.00  0.00     H
ATOM   3317 1HG2 THR B  37  -25.307  23.154   9.649  1.00  0.00     H
ATOM   3318 2HG2 THR B  37  -25.923  21.495   9.398  1.00  0.00     H
ATOM   3319 3HG2 THR B  37  -24.557  22.126   8.418  1.00  0.00     H
ATOM   3320  N   LYS B  38  -25.205  22.598   5.235  1.00  0.41     N
ATOM   3321  CA  LYS B  38  -23.972  22.506   4.517  1.00  0.41     C
ATOM   3322  C   LYS B  38  -23.171  23.683   4.969  1.00  0.41     C
ATOM   3323  O   LYS B  38  -23.687  24.798   5.054  1.00  0.41     O
ATOM   3324  CB  LYS B  38  -24.131  22.656   2.995  1.00  0.41     C
ATOM   3325  CG  LYS B  38  -25.186  21.731   2.385  1.00  0.41     C
ATOM   3326  CD  LYS B  38  -26.617  22.138   2.751  1.00  0.41     C
ATOM   3327  CE  LYS B  38  -27.700  21.373   1.986  1.00  0.41     C
ATOM   3328  NZ  LYS B  38  -29.037  21.900   2.348  1.00  0.41    N1+
ATOM   3329  H   LYS B  38  -25.630  23.518   5.314  1.00  0.00     H
ATOM   3330  HA  LYS B  38  -23.477  21.547   4.738  1.00  0.00     H
ATOM   3331 1HB  LYS B  38  -23.141  22.476   2.541  1.00  0.00     H
ATOM   3332 2HB  LYS B  38  -24.408  23.693   2.761  1.00  0.00     H
ATOM   3333 1HG  LYS B  38  -24.996  20.683   2.681  1.00  0.00     H
ATOM   3334 2HG  LYS B  38  -25.082  21.760   1.285  1.00  0.00     H
ATOM   3335 1HD  LYS B  38  -26.726  23.208   2.649  1.00  0.00     H
ATOM   3336 2HD  LYS B  38  -26.849  21.891   3.795  1.00  0.00     H
ATOM   3337 1HE  LYS B  38  -27.684  20.301   2.244  1.00  0.00     H
ATOM   3338 2HE  LYS B  38  -27.598  21.468   0.893  1.00  0.00     H
ATOM   3339 1HZ  LYS B  38  -29.782  21.422   1.855  1.00  0.00     H
ATOM   3340 2HZ  LYS B  38  -29.227  21.774   3.336  1.00  0.00     H
ATOM   3341 3HZ  LYS B  38  -29.137  22.884   2.132  1.00  0.00     H
ATOM   3342  N   TRP B  39  -21.884  23.465   5.297  1.00  0.18     N
ATOM   3343  CA  TRP B  39  -21.073  24.572   5.707  1.00  0.18     C
ATOM   3344  C   TRP B  39  -20.040  24.787   4.659  1.00  0.18     C
ATOM   3345  O   TRP B  39  -19.565  23.841   4.034  1.00  0.18     O
ATOM   3346  CB  TRP B  39  -20.331  24.376   7.044  1.00  0.18     C
ATOM   3347  CG  TRP B  39  -21.211  24.487   8.268  1.00  0.18     C
ATOM   3348  CD1 TRP B  39  -21.745  23.516   9.062  1.00  0.18     C
ATOM   3349  CD2 TRP B  39  -21.658  25.743   8.802  1.00  0.18     C
ATOM   3350  NE1 TRP B  39  -22.498  24.090  10.062  1.00  0.18     N
ATOM   3351  CE2 TRP B  39  -22.453  25.461   9.912  1.00  0.18     C
ATOM   3352  CE3 TRP B  39  -21.425  27.026   8.397  1.00  0.18     C
ATOM   3353  CZ2 TRP B  39  -23.031  26.465  10.636  1.00  0.18     C
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ATOM   3354  CZ3 TRP B  39    -22.006  28.036   9.130  1.00  0.18      C
ATOM   3355  CH2 TRP B  39    -22.793  27.761  10.228  1.00  0.18      C
ATOM   3356  H   TRP B  39    -21.423  22.572   5.234  1.00  0.00      H
ATOM   3357  HA  TRP B  39    -21.686  25.480   5.806  1.00  0.00      H
ATOM   3358 1HB  TRP B  39    -19.541  25.146   7.108  1.00  0.00      H
ATOM   3359 2HB  TRP B  39    -19.802  23.412   7.047  1.00  0.00      H
ATOM   3360  HD1 TRP B  39    -21.773  22.453   8.874  1.00  0.00      H
ATOM   3361  HE1 TRP B  39    -23.076  23.572  10.695  1.00  0.00      H
ATOM   3362  HE3 TRP B  39    -20.762  27.244   7.571  1.00  0.00      H
ATOM   3363  HZ2 TRP B  39    -23.620  26.247  11.520  1.00  0.00      H
ATOM   3364  HZ3 TRP B  39    -21.828  29.070   8.842  1.00  0.00      H
ATOM   3365  HH2 TRP B  39    -23.235  28.564  10.806  1.00  0.00      H
ATOM   3366  N   PHE B  40    -19.690  26.063   4.416  1.00  0.08      N
ATOM   3367  CA  PHE B  40    -18.688  26.328   3.434  1.00  0.08      C
ATOM   3368  C   PHE B  40    -17.664  27.212   4.057  1.00  0.08      C
ATOM   3369  O   PHE B  40    -17.990  28.127   4.811  1.00  0.08      O
ATOM   3370  CB  PHE B  40    -19.229  27.050   2.190  1.00  0.08      C
ATOM   3371  CG  PHE B  40    -20.153  26.100   1.514  1.00  0.08      C
ATOM   3372  CD1 PHE B  40    -21.465  25.994   1.916  1.00  0.08      C
ATOM   3373  CD2 PHE B  40    -19.703  25.313   0.478  1.00  0.08      C
ATOM   3374  CE1 PHE B  40    -22.315  25.114   1.291  1.00  0.08      C
ATOM   3375  CE2 PHE B  40    -20.551  24.431  -0.150  1.00  0.08      C
ATOM   3376  CZ  PHE B  40    -21.860  24.332   0.257  1.00  0.08      C
ATOM   3377  H   PHE B  40    -20.105  26.853   4.892  1.00  0.00      H
ATOM   3378  HA  PHE B  40    -18.309  25.372   3.136  1.00  0.00      H
ATOM   3379 1HB  PHE B  40    -18.376  27.311   1.549  1.00  0.00      H
ATOM   3380 2HB  PHE B  40    -19.730  27.984   2.471  1.00  0.00      H
ATOM   3381  HD1 PHE B  40    -21.845  26.623   2.717  1.00  0.00      H
ATOM   3382  HD2 PHE B  40    -18.680  25.415   0.131  1.00  0.00      H
ATOM   3383  HE1 PHE B  40    -23.355  25.087   1.589  1.00  0.00      H
ATOM   3384  HE2 PHE B  40    -20.212  23.880  -1.022  1.00  0.00      H
ATOM   3385  HZ  PHE B  40    -22.535  23.650  -0.252  1.00  0.00      H
ATOM   3386  N   HIS B  41    -16.383  26.921   3.777  1.00  0.10      N
ATOM   3387  CA  HIS B  41    -15.322  27.757   4.242  1.00  0.10      C
ATOM   3388  C   HIS B  41    -14.620  28.223   3.014  1.00  0.10      C
ATOM   3389  O   HIS B  41    -14.100  27.419   2.242  1.00  0.10      O
ATOM   3390  CB  HIS B  41    -14.287  27.030   5.109  1.00  0.10      C
ATOM   3391  CG  HIS B  41    -13.274  27.973   5.682  1.00  0.10      C
ATOM   3392  ND1 HIS B  41    -12.236  27.588   6.499  1.00  0.10      N
ATOM   3393  CD2 HIS B  41    -13.159  29.322   5.541  1.00  0.10      C
ATOM   3394  CE1 HIS B  41    -11.548  28.715   6.810  1.00  0.10      C
ATOM   3395  NE2 HIS B  41    -12.071  29.794   6.253  1.00  0.10      N
ATOM   3396  H   HIS B  41    -16.137  26.064   3.279  1.00  0.00      H
ATOM   3397  HA  HIS B  41    -15.740  28.586   4.831  1.00  0.00      H
ATOM   3398 1HB  HIS B  41    -13.799  26.218   4.545  1.00  0.00      H
ATOM   3399 2HB  HIS B  41    -14.824  26.533   5.938  1.00  0.00      H
ATOM   3400  HD2 HIS B  41    -13.745  30.040   5.019  1.00  0.00      H
ATOM   3401  HE1 HIS B  41    -10.615  28.670   7.349  1.00  0.00      H
ATOM   3402  HE2 HIS B  41    -11.766  30.724   6.456  1.00  0.00      H
ATOM   3403  N   ASN B  42    -14.593  29.547   2.797  1.00  0.11      N
ATOM   3404  CA  ASN B  42    -13.967  30.065   1.622  1.00  0.11      C
ATOM   3405  C   ASN B  42    -14.617  29.423   0.440  1.00  0.11      C
ATOM   3406  O   ASN B  42    -14.003  29.264  -0.614  1.00  0.11      O
ATOM   3407  CB  ASN B  42    -12.450  29.807   1.562  1.00  0.11      C
ATOM   3408  CG  ASN B  42    -11.781  30.743   2.558  1.00  0.11      C
ATOM   3409  OD1 ASN B  42    -12.427  31.620   3.129  1.00  0.11      O
ATOM   3410  ND2 ASN B  42    -10.447  30.568   2.758  1.00  0.11      N
ATOM   3411  H   ASN B  42    -14.895  30.202   3.517  1.00  0.00      H
ATOM   3412  HA  ASN B  42    -14.186  31.144   1.529  1.00  0.00      H
ATOM   3413 1HB  ASN B  42    -12.064  30.095   0.568  1.00  0.00      H
ATOM   3414 2HB  ASN B  42    -12.163  28.762   1.744  1.00  0.00      H
ATOM   3415 1HD2 ASN B  42     -9.941  29.816   2.328  1.00  0.00      H
ATOM   3416 2HD2 ASN B  42     -9.999  31.137   3.458  1.00  0.00      H
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ATOM   3417  N   GLY B  43  -15.899  29.045   0.589  1.00  0.08     N
ATOM   3418  CA  GLY B  43  -16.624  28.488  -0.515  1.00  0.08     C
ATOM   3419  C   GLY B  43  -16.364  27.018  -0.611  1.00  0.08     C
ATOM   3420  O   GLY B  43  -16.830  26.369  -1.546  1.00  0.08     O
ATOM   3421  H   GLY B  43  -16.266  28.914   1.519  1.00  0.00     H
ATOM   3422 1HA  GLY B  43  -16.323  28.969  -1.458  1.00  0.00     H
ATOM   3423 2HA  GLY B  43  -17.706  28.635  -0.374  1.00  0.00     H
ATOM   3424  N   SER B  44  -15.617  26.438   0.346  1.00  0.15     N
ATOM   3425  CA  SER B  44  -15.375  25.028   0.255  1.00  0.15     C
ATOM   3426  C   SER B  44  -16.345  24.356   1.167  1.00  0.15     C
ATOM   3427  O   SER B  44  -16.513  24.755   2.317  1.00  0.15     O
ATOM   3428  CB  SER B  44  -13.964  24.604   0.694  1.00  0.15     C
ATOM   3429  OG  SER B  44  -13.788  24.860   2.080  1.00  0.15     O
ATOM   3430  H   SER B  44  -15.082  26.974   1.012  1.00  0.00     H
ATOM   3431  HA  SER B  44  -15.486  24.690  -0.788  1.00  0.00     H
ATOM   3432 1HB  SER B  44  -13.183  25.094   0.087  1.00  0.00     H
ATOM   3433 2HB  SER B  44  -13.867  23.517   0.561  1.00  0.00     H
ATOM   3434  HG  SER B  44  -13.580  25.804   2.177  1.00  0.00     H
ATOM   3435  N   LEU B  45  -17.025  23.310   0.666  1.00  0.35     N
ATOM   3436  CA  LEU B  45  -17.997  22.626   1.465  1.00  0.35     C
ATOM   3437  C   LEU B  45  -17.255  21.852   2.504  1.00  0.35     C
ATOM   3438  O   LEU B  45  -16.195  21.288   2.241  1.00  0.35     O
ATOM   3439  CB  LEU B  45  -18.886  21.676   0.622  1.00  0.35     C
ATOM   3440  CG  LEU B  45  -20.000  20.880   1.345  1.00  0.35     C
ATOM   3441  CD1 LEU B  45  -20.847  20.099   0.328  1.00  0.35     C
ATOM   3442  CD2 LEU B  45  -19.465  19.928   2.433  1.00  0.35     C
ATOM   3443  H   LEU B  45  -16.840  22.935  -0.247  1.00  0.00     H
ATOM   3444  HA  LEU B  45  -18.651  23.382   1.916  1.00  0.00     H
ATOM   3445 1HB  LEU B  45  -18.218  20.935   0.143  1.00  0.00     H
ATOM   3446 2HB  LEU B  45  -19.327  22.235  -0.212  1.00  0.00     H
ATOM   3447  HG  LEU B  45  -20.665  21.614   1.840  1.00  0.00     H
ATOM   3448 1HD1 LEU B  45  -21.676  19.564   0.821  1.00  0.00     H
ATOM   3449 2HD1 LEU B  45  -21.291  20.767  -0.428  1.00  0.00     H
ATOM   3450 3HD1 LEU B  45  -20.234  19.352  -0.203  1.00  0.00     H
ATOM   3451 1HD2 LEU B  45  -19.720  18.886   2.158  1.00  0.00     H
ATOM   3452 2HD2 LEU B  45  -18.389  19.861   2.575  1.00  0.00     H
ATOM   3453 3HD2 LEU B  45  -20.074  20.108   3.311  1.00  0.00     H
ATOM   3454  N   SER B  46  -17.808  21.826   3.734  1.00  0.48     N
ATOM   3455  CA  SER B  46  -17.218  21.081   4.809  1.00  0.48     C
ATOM   3456  C   SER B  46  -18.124  19.925   5.078  1.00  0.48     C
ATOM   3457  O   SER B  46  -19.320  20.095   5.301  1.00  0.48     O
ATOM   3458  CB  SER B  46  -17.159  21.829   6.154  1.00  0.48     C
ATOM   3459  OG  SER B  46  -16.268  22.929   6.093  1.00  0.48     O
ATOM   3460  H   SER B  46  -18.582  22.438   3.972  1.00  0.00     H
ATOM   3461  HA  SER B  46  -16.185  20.797   4.554  1.00  0.00     H
ATOM   3462 1HB  SER B  46  -16.623  21.080   6.739  1.00  0.00     H
ATOM   3463 2HB  SER B  46  -18.133  22.087   6.591  1.00  0.00     H
ATOM   3464  HG  SER B  46  -16.007  23.091   7.021  1.00  0.00     H
ATOM   3465  N   GLU B  47  -17.561  18.708   5.029  1.00  0.44     N
ATOM   3466  CA  GLU B  47  -18.248  17.483   5.316  1.00  0.44     C
ATOM   3467  C   GLU B  47  -18.453  17.380   6.797  1.00  0.44     C
ATOM   3468  O   GLU B  47  -19.343  16.678   7.271  1.00  0.44     O
ATOM   3469  CB  GLU B  47  -17.440  16.244   4.906  1.00  0.44     C
ATOM   3470  CG  GLU B  47  -16.115  16.136   5.662  1.00  0.44     C
ATOM   3471  CD  GLU B  47  -15.396  14.878   5.203  1.00  0.44     C
ATOM   3472  OE1 GLU B  47  -15.858  14.260   4.206  1.00  0.44     O
ATOM   3473  OE2 GLU B  47  -14.373  14.517   5.844  1.00  0.44     O1-
ATOM   3474  H   GLU B  47  -16.607  18.583   4.722  1.00  0.00     H
ATOM   3475  HA  GLU B  47  -19.239  17.485   4.833  1.00  0.00     H
ATOM   3476 1HB  GLU B  47  -17.273  16.281   3.815  1.00  0.00     H
ATOM   3477 2HB  GLU B  47  -18.068  15.358   5.110  1.00  0.00     H
ATOM   3478 1HG  GLU B  47  -16.248  16.052   6.752  1.00  0.00     H
ATOM   3479 2HG  GLU B  47  -15.450  16.998   5.494  1.00  0.00     H
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ATOM   3480  N   GLU B  48  -17.608  18.100   7.551  1.00  0.45   N
ATOM   3481  CA  GLU B  48  -17.419  17.985   8.969  1.00  0.45   C
ATOM   3482  C   GLU B  48  -18.648  18.126   9.823  1.00  0.45   C
ATOM   3483  O   GLU B  48  -18.857  17.287  10.697  1.00  0.45   O
ATOM   3484  CB  GLU B  48  -16.414  19.033   9.468  1.00  0.45   C
ATOM   3485  CG  GLU B  48  -16.862  20.463   9.154  1.00  0.45   C
ATOM   3486  CD  GLU B  48  -15.749  21.419   9.560  1.00  0.45   C
ATOM   3487  OE1 GLU B  48  -14.717  20.938  10.099  1.00  0.45   O
ATOM   3488  OE2 GLU B  48  -15.917  22.647   9.333  1.00  0.45   O1-
ATOM   3489  H   GLU B  48  -16.949  18.691   7.075  1.00  0.00   H
ATOM   3490  HA  GLU B  48  -17.016  16.981   9.188  1.00  0.00   H
ATOM   3491 1HB  GLU B  48  -15.437  18.814   8.999  1.00  0.00   H
ATOM   3492 2HB  GLU B  48  -16.290  18.894  10.557  1.00  0.00   H
ATOM   3493 1HG  GLU B  48  -17.656  20.717   9.869  1.00  0.00   H
ATOM   3494 2HG  GLU B  48  -17.412  20.608   8.238  1.00  0.00   H
ATOM   3495  N   THR B  49  -19.523  19.131   9.626  1.00  0.55   N
ATOM   3496  CA  THR B  49  -20.475  19.275  10.695  1.00  0.55   C
ATOM   3497  C   THR B  49  -21.869  19.563  10.218  1.00  0.55   C
ATOM   3498  O   THR B  49  -22.124  19.788   9.036  1.00  0.55   O
ATOM   3499  CB  THR B  49  -20.062  20.399  11.603  1.00  0.55   C
ATOM   3500  OG1 THR B  49  -20.882  20.478  12.757  1.00  0.55   O
ATOM   3501  CG2 THR B  49  -20.139  21.702  10.795  1.00  0.55   C
ATOM   3502  H   THR B  49  -19.450  19.828   8.907  1.00  0.00   H
ATOM   3503  HA  THR B  49  -20.596  18.355  11.285  1.00  0.00   H
ATOM   3504  HB  THR B  49  -19.051  20.098  11.919  1.00  0.00   H
ATOM   3505  HG1 THR B  49  -20.702  21.317  13.210  1.00  0.00   H
ATOM   3506 1HG2 THR B  49  -19.326  22.416  10.800  1.00  0.00   H
ATOM   3507 2HG2 THR B  49  -20.226  21.509   9.715  1.00  0.00   H
ATOM   3508 3HG2 THR B  49  -21.061  22.206  11.101  1.00  0.00   H
ATOM   3509  N   ASN B  50  -22.808  19.535  11.191  1.00  0.44   N
ATOM   3510  CA  ASN B  50  -24.216  19.765  11.036  1.00  0.44   C
ATOM   3511  C   ASN B  50  -24.526  21.176  11.431  1.00  0.44   C
ATOM   3512  O   ASN B  50  -23.788  22.110  11.124  1.00  0.44   O
ATOM   3513  CB  ASN B  50  -25.082  18.854  11.923  1.00  0.44   C
ATOM   3514  CG  ASN B  50  -24.987  17.436  11.383  1.00  0.44   C
ATOM   3515  OD1 ASN B  50  -25.306  17.184  10.223  1.00  0.44   O
ATOM   3516  ND2 ASN B  50  -24.536  16.483  12.243  1.00  0.44   N
ATOM   3517  H   ASN B  50  -22.432  19.612  12.132  1.00  0.00   H
ATOM   3518  HA  ASN B  50  -24.490  19.648   9.974  1.00  0.00   H
ATOM   3519 1HB  ASN B  50  -26.160  19.052  11.801  1.00  0.00   H
ATOM   3520 2HB  ASN B  50  -24.811  18.926  12.988  1.00  0.00   H
ATOM   3521 1HD2 ASN B  50  -24.229  16.692  13.173  1.00  0.00   H
ATOM   3522 2HD2 ASN B  50  -24.434  15.557  11.862  1.00  0.00   H
ATOM   3523  N   SER B  51  -25.661  21.345  12.140  1.00  0.25   N
ATOM   3524  CA  SER B  51  -26.182  22.633  12.494  1.00  0.25   C
ATOM   3525  C   SER B  51  -25.171  23.418  13.267  1.00  0.25   C
ATOM   3526  O   SER B  51  -24.943  24.590  12.969  1.00  0.25   O
ATOM   3527  CB  SER B  51  -27.446  22.542  13.365  1.00  0.25   C
ATOM   3528  OG  SER B  51  -27.126  21.972  14.625  1.00  0.25   O
ATOM   3529  H   SER B  51  -26.217  20.565  12.448  1.00  0.00   H
ATOM   3530  HA  SER B  51  -26.415  23.201  11.580  1.00  0.00   H
ATOM   3531 1HB  SER B  51  -28.208  21.903  12.897  1.00  0.00   H
ATOM   3532 2HB  SER B  51  -27.883  23.550  13.489  1.00  0.00   H
ATOM   3533  HG  SER B  51  -26.652  22.654  15.134  1.00  0.00   H
ATOM   3534  N   SER B  52  -24.525  22.810  14.278  1.00  0.14   N
ATOM   3535  CA  SER B  52  -23.591  23.593  15.036  1.00  0.14   C
ATOM   3536  C   SER B  52  -22.214  23.106  14.740  1.00  0.14   C
ATOM   3537  O   SER B  52  -21.944  21.906  14.768  1.00  0.14   O
ATOM   3538  CB  SER B  52  -23.794  23.486  16.557  1.00  0.14   C
ATOM   3539  OG  SER B  52  -25.058  24.020  16.919  1.00  0.14   O
ATOM   3540  H   SER B  52  -24.570  21.822  14.458  1.00  0.00   H
ATOM   3541  HA  SER B  52  -23.702  24.662  14.810  1.00  0.00   H
ATOM   3542 1HB  SER B  52  -22.979  24.029  17.070  1.00  0.00   H
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ATOM   3543  2HB  SER B  52     -23.770  22.444  16.905  1.00  0.00      H
ATOM   3544   HG  SER B  52     -24.950  24.982  16.985  1.00  0.00      H
ATOM   3545   N   LEU B  53     -21.296  24.040  14.422  1.00  0.09      N
ATOM   3546   CA  LEU B  53     -19.948  23.630  14.179  1.00  0.09      C
ATOM   3547   C   LEU B  53     -19.099  24.280  15.218  1.00  0.09      C
ATOM   3548   O   LEU B  53     -19.090  25.503  15.358  1.00  0.09      O
ATOM   3549   CB  LEU B  53     -19.400  24.033  12.798  1.00  0.09      C
ATOM   3550   CG  LEU B  53     -17.946  23.579  12.554  1.00  0.09      C
ATOM   3551   CD1 LEU B  53     -17.822  22.049  12.594  1.00  0.09      C
ATOM   3552   CD2 LEU B  53     -17.391  24.172  11.251  1.00  0.09      C
ATOM   3553   H   LEU B  53     -21.497  25.037  14.378  1.00  0.00      H
ATOM   3554   HA  LEU B  53     -19.873  22.545  14.292  1.00  0.00      H
ATOM   3555  1HB  LEU B  53     -19.407  25.138  12.754  1.00  0.00      H
ATOM   3556  2HB  LEU B  53     -20.106  23.754  12.014  1.00  0.00      H
ATOM   3557   HG  LEU B  53     -17.335  23.996  13.377  1.00  0.00      H
ATOM   3558 1HD1  LEU B  53     -16.829  21.811  13.024  1.00  0.00      H
ATOM   3559 2HD1  LEU B  53     -18.521  21.535  13.257  1.00  0.00      H
ATOM   3560 3HD1  LEU B  53     -17.754  21.594  11.609  1.00  0.00      H
ATOM   3561 1HD2  LEU B  53     -16.302  24.018  11.201  1.00  0.00      H
ATOM   3562 2HD2  LEU B  53     -17.862  23.765  10.346  1.00  0.00      H
ATOM   3563 3HD2  LEU B  53     -17.544  25.264  11.226  1.00  0.00      H
ATOM   3564   N   ASN B  54     -18.372  23.461  15.998  1.00  0.09      N
ATOM   3565   CA  ASN B  54     -17.529  24.012  17.013  1.00  0.09      C
ATOM   3566   C   ASN B  54     -16.131  23.631  16.666  1.00  0.09      C
ATOM   3567   O   ASN B  54     -15.849  22.471  16.374  1.00  0.09      O
ATOM   3568   CB  ASN B  54     -17.800  23.445  18.416  1.00  0.09      C
ATOM   3569   CG  ASN B  54     -16.982  24.254  19.411  1.00  0.09      C
ATOM   3570  OD1  ASN B  54     -16.409  25.286  19.069  1.00  0.09      O
ATOM   3571  ND2  ASN B  54     -16.916  23.767  20.679  1.00  0.09      N
ATOM   3572   H   ASN B  54     -18.263  22.475  15.832  1.00  0.00      H
ATOM   3573   HA  ASN B  54     -17.682  25.091  17.053  1.00  0.00      H
ATOM   3574  1HB  ASN B  54     -17.555  22.373  18.473  1.00  0.00      H
ATOM   3575  2HB  ASN B  54     -18.867  23.568  18.670  1.00  0.00      H
ATOM   3576 1HD2  ASN B  54     -17.372  22.916  20.949  1.00  0.00      H
ATOM   3577 2HD2  ASN B  54     -16.360  24.293  21.330  1.00  0.00      H
ATOM   3578   N   ILE B  55     -15.213  24.611  16.677  1.00  0.08      N
ATOM   3579   CA  ILE B  55     -13.854  24.291  16.377  1.00  0.08      C
ATOM   3580   C   ILE B  55     -13.041  24.735  17.542  1.00  0.08      C
ATOM   3581   O   ILE B  55     -13.338  25.745  18.178  1.00  0.08      O
ATOM   3582   CB  ILE B  55     -13.310  25.010  15.178  1.00  0.08      C
ATOM   3583  CG1  ILE B  55     -13.293  26.527  15.424  1.00  0.08      C
ATOM   3584  CG2  ILE B  55     -14.135  24.589  13.950  1.00  0.08      C
ATOM   3585  CD1  ILE B  55     -12.481  27.296  14.384  1.00  0.08      C
ATOM   3586   H   ILE B  55     -15.436  25.536  17.039  1.00  0.00      H
ATOM   3587   HA  ILE B  55     -13.731  23.205  16.238  1.00  0.00      H
ATOM   3588   HB  ILE B  55     -12.270  24.659  15.038  1.00  0.00      H
ATOM   3589 1HG1  ILE B  55     -12.814  26.841  16.356  1.00  0.00      H
ATOM   3590 2HG1  ILE B  55     -14.341  26.851  15.420  1.00  0.00      H
ATOM   3591 1HG2  ILE B  55     -13.703  24.971  13.010  1.00  0.00      H
ATOM   3592 2HG2  ILE B  55     -14.181  23.491  13.855  1.00  0.00      H
ATOM   3593 3HG2  ILE B  55     -15.169  24.966  14.004  1.00  0.00      H
ATOM   3594 1HD1  ILE B  55     -12.528  28.384  14.547  1.00  0.00      H
ATOM   3595 2HD1  ILE B  55     -11.433  26.989  14.474  1.00  0.00      H
ATOM   3596 3HD1  ILE B  55     -12.805  27.104  13.349  1.00  0.00      H
ATOM   3597   N   VAL B  56     -11.988  23.964  17.855  1.00  0.10      N
ATOM   3598   CA  VAL B  56     -11.128  24.307  18.942  1.00  0.10      C
ATOM   3599   C   VAL B  56      -9.803  24.597  18.333  1.00  0.10      C
ATOM   3600   O   VAL B  56      -9.483  24.091  17.259  1.00  0.10      O
ATOM   3601   CB  VAL B  56     -10.938  23.177  19.914  1.00  0.10      C
ATOM   3602  CG1  VAL B  56      -9.887  23.579  20.962  1.00  0.10      C
ATOM   3603  CG2  VAL B  56     -12.308  22.813  20.510  1.00  0.10      C
ATOM   3604   H   VAL B  56     -11.643  23.243  17.244  1.00  0.00      H
ATOM   3605   HA  VAL B  56     -11.486  25.247  19.322  1.00  0.00      H
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ATOM   3606  HB  VAL B  56   -10.550  22.293  19.374  1.00  0.00     H
ATOM   3607 1HG1 VAL B  56   -10.078  23.069  21.922  1.00  0.00     H
ATOM   3608 2HG1 VAL B  56    -8.900  23.203  20.639  1.00  0.00     H
ATOM   3609 3HG1 VAL B  56    -9.712  24.626  21.212  1.00  0.00     H
ATOM   3610 1HG2 VAL B  56   -12.215  22.112  21.356  1.00  0.00     H
ATOM   3611 2HG2 VAL B  56   -12.874  23.684  20.866  1.00  0.00     H
ATOM   3612 3HG2 VAL B  56   -12.944  22.313  19.759  1.00  0.00     H
ATOM   3613  N   ASN B  57    -9.004  25.433  19.021  1.00  0.11     N
ATOM   3614  CA  ASN B  57    -7.708  25.802  18.547  1.00  0.11     C
ATOM   3615  C   ASN B  57    -7.819  26.255  17.129  1.00  0.11     C
ATOM   3616  O   ASN B  57    -7.234  25.657  16.227  1.00  0.11     O
ATOM   3617  CB  ASN B  57    -6.662  24.678  18.634  1.00  0.11     C
ATOM   3618  CG  ASN B  57    -5.291  25.321  18.470  1.00  0.11     C
ATOM   3619  OD1 ASN B  57    -5.099  26.203  17.634  1.00  0.11     O
ATOM   3620  ND2 ASN B  57    -4.310  24.880  19.303  1.00  0.11     N
ATOM   3621  H   ASN B  57    -9.361  25.917  19.839  1.00  0.00     H
ATOM   3622  HA  ASN B  57    -7.598  26.672  19.108  1.00  0.00     H
ATOM   3623 1HB  ASN B  57    -6.807  23.906  17.861  1.00  0.00     H
ATOM   3624 2HB  ASN B  57    -6.743  24.176  19.613  1.00  0.00     H
ATOM   3625 1HD2 ASN B  57    -4.557  24.208  20.013  1.00  0.00     H
ATOM   3626 2HD2 ASN B  57    -3.547  25.508  19.482  1.00  0.00     H
ATOM   3627  N   ALA B  58    -8.603  27.326  16.895  1.00  0.21     N
ATOM   3628  CA  ALA B  58    -8.722  27.819  15.556  1.00  0.21     C
ATOM   3629  C   ALA B  58    -7.341  28.174  15.120  1.00  0.21     C
ATOM   3630  O   ALA B  58    -6.578  28.782  15.870  1.00  0.21     O
ATOM   3631  CB  ALA B  58    -9.596  29.081  15.430  1.00  0.21     C
ATOM   3632  H   ALA B  58    -9.197  27.733  17.613  1.00  0.00     H
ATOM   3633  HA  ALA B  58    -9.154  26.967  15.035  1.00  0.00     H
ATOM   3634 1HB  ALA B  58    -9.729  29.336  14.369  1.00  0.00     H
ATOM   3635 2HB  ALA B  58   -10.589  28.921  15.874  1.00  0.00     H
ATOM   3636 3HB  ALA B  58    -9.118  29.932  15.936  1.00  0.00     H
ATOM   3637  N   LYS B  59    -6.977  27.771  13.889  1.00  0.31     N
ATOM   3638  CA  LYS B  59    -5.653  28.014  13.401  1.00  0.31     C
ATOM   3639  C   LYS B  59    -5.671  29.201  12.498  1.00  0.31     C
ATOM   3640  O   LYS B  59    -6.710  29.812  12.255  1.00  0.31     O
ATOM   3641  CB  LYS B  59    -5.066  26.841  12.597  1.00  0.31     C
ATOM   3642  CG  LYS B  59    -4.819  25.592  13.445  1.00  0.31     C
ATOM   3643  CD  LYS B  59    -3.812  25.804  14.579  1.00  0.31     C
ATOM   3644  CE  LYS B  59    -3.593  24.558  15.443  1.00  0.31     C
ATOM   3645  NZ  LYS B  59    -2.607  24.846  16.509  1.00  0.31     N1+
ATOM   3646  H   LYS B  59    -7.667  27.320  13.284  1.00  0.00     H
ATOM   3647  HA  LYS B  59    -4.994  28.273  14.243  1.00  0.00     H
ATOM   3648 1HB  LYS B  59    -4.188  27.087  11.986  1.00  0.00     H
ATOM   3649 2HB  LYS B  59    -5.917  26.508  11.995  1.00  0.00     H
ATOM   3650 1HG  LYS B  59    -4.449  24.763  12.824  1.00  0.00     H
ATOM   3651 2HG  LYS B  59    -5.784  25.249  13.863  1.00  0.00     H
ATOM   3652 1HD  LYS B  59    -4.154  26.623  15.231  1.00  0.00     H
ATOM   3653 2HD  LYS B  59    -2.851  26.124  14.138  1.00  0.00     H
ATOM   3654 1HE  LYS B  59    -3.202  23.717  14.846  1.00  0.00     H
ATOM   3655 2HE  LYS B  59    -4.527  24.225  15.925  1.00  0.00     H
ATOM   3656 1HZ  LYS B  59    -2.435  24.037  17.091  1.00  0.00     H
ATOM   3657 2HZ  LYS B  59    -1.719  25.149  16.136  1.00  0.00     H
ATOM   3658 3HZ  LYS B  59    -2.973  25.567  17.120  1.00  0.00     H
ATOM   3659  N   PHE B  60    -4.477  29.552  11.983  1.00  0.23     N
ATOM   3660  CA  PHE B  60    -4.318  30.638  11.063  1.00  0.23     C
ATOM   3661  C   PHE B  60    -5.095  30.287   9.839  1.00  0.23     C
ATOM   3662  O   PHE B  60    -5.704  31.140   9.197  1.00  0.23     O
ATOM   3663  CB  PHE B  60    -2.858  30.850  10.632  1.00  0.23     C
ATOM   3664  CG  PHE B  60    -2.873  31.832   9.510  1.00  0.23     C
ATOM   3665  CD1 PHE B  60    -2.961  33.184   9.748  1.00  0.23     C
ATOM   3666  CD2 PHE B  60    -2.798  31.391   8.208  1.00  0.23     C
ATOM   3667  CE1 PHE B  60    -2.977  34.079   8.705  1.00  0.23     C
ATOM   3668  CE2 PHE B  60    -2.813  32.282   7.161  1.00  0.23     C
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ATOM   3669  CZ  PHE B  60    -2.902  33.630   7.409  1.00  0.23      C
ATOM   3670  H   PHE B  60    -3.633  29.102  12.295  1.00  0.00      H
ATOM   3671  HA  PHE B  60    -4.520  31.613  11.406  1.00  0.00      H
ATOM   3672 1HB  PHE B  60    -2.378  29.909  10.321  1.00  0.00      H
ATOM   3673 2HB  PHE B  60    -2.278  31.227  11.490  1.00  0.00      H
ATOM   3674  HD1 PHE B  60    -3.027  33.553  10.769  1.00  0.00      H
ATOM   3675  HD2 PHE B  60    -2.735  30.326   7.999  1.00  0.00      H
ATOM   3676  HE1 PHE B  60    -3.056  35.145   8.908  1.00  0.00      H
ATOM   3677  HE2 PHE B  60    -2.763  31.919   6.138  1.00  0.00      H
ATOM   3678  HZ  PHE B  60    -2.922  34.338   6.584  1.00  0.00      H
ATOM   3679  N   GLU B  61    -5.095  28.987   9.508  1.00  0.15      N
ATOM   3680  CA  GLU B  61    -5.748  28.446   8.354  1.00  0.15      C
ATOM   3681  C   GLU B  61    -7.218  28.714   8.459  1.00  0.15      C
ATOM   3682  O   GLU B  61    -7.889  28.938   7.454  1.00  0.15      O
ATOM   3683  CB  GLU B  61    -5.528  26.930   8.259  1.00  0.15      C
ATOM   3684  CG  GLU B  61    -5.975  26.190   9.522  1.00  0.15      C
ATOM   3685  CD  GLU B  61    -5.349  24.803   9.510  1.00  0.15      C
ATOM   3686  OE1 GLU B  61    -5.260  24.199   8.408  1.00  0.15      O
ATOM   3687  OE2 GLU B  61    -4.938  24.333  10.605  1.00  0.15      O1-
ATOM   3688  H   GLU B  61    -4.636  28.314  10.097  1.00  0.00      H
ATOM   3689  HA  GLU B  61    -5.382  28.950   7.445  1.00  0.00      H
ATOM   3690 1HB  GLU B  61    -4.456  26.737   8.074  1.00  0.00      H
ATOM   3691 2HB  GLU B  61    -6.074  26.577   7.366  1.00  0.00      H
ATOM   3692 1HG  GLU B  61    -7.066  26.116   9.599  1.00  0.00      H
ATOM   3693 2HG  GLU B  61    -5.569  26.768  10.323  1.00  0.00      H
ATOM   3694  N   ASP B  62    -7.751  28.719   9.694  1.00  0.16      N
ATOM   3695  CA  ASP B  62    -9.160  28.869   9.932  1.00  0.16      C
ATOM   3696  C   ASP B  62    -9.664  30.184   9.421  1.00  0.16      C
ATOM   3697  O   ASP B  62   -10.828  30.280   9.041  1.00  0.16      O
ATOM   3698  CB  ASP B  62    -9.539  28.746  11.419  1.00  0.16      C
ATOM   3699  CG  ASP B  62    -9.413  27.276  11.797  1.00  0.16      C
ATOM   3700  OD1 ASP B  62    -9.136  26.454  10.883  1.00  0.16      O
ATOM   3701  OD2 ASP B  62    -9.605  26.952  13.000  1.00  0.16      O1-
ATOM   3702  H   ASP B  62    -7.202  28.495  10.507  1.00  0.00      H
ATOM   3703  HA  ASP B  62    -9.712  28.115   9.343  1.00  0.00      H
ATOM   3704 1HB  ASP B  62   -10.604  29.018  11.527  1.00  0.00      H
ATOM   3705 2HB  ASP B  62    -9.012  29.421  12.095  1.00  0.00      H
ATOM   3706  N   SER B  63    -8.832  31.244   9.415  1.00  0.20      N
ATOM   3707  CA  SER B  63    -9.308  32.524   8.962  1.00  0.20      C
ATOM   3708  C   SER B  63    -9.869  32.382   7.579  1.00  0.20      C
ATOM   3709  O   SER B  63    -9.321  31.677   6.734  1.00  0.20      O
ATOM   3710  CB  SER B  63    -8.213  33.604   8.921  1.00  0.20      C
ATOM   3711  OG  SER B  63    -7.222  33.255   7.966  1.00  0.20      O
ATOM   3712  H   SER B  63    -7.856  31.085   9.622  1.00  0.00      H
ATOM   3713  HA  SER B  63   -10.093  32.837   9.673  1.00  0.00      H
ATOM   3714 1HB  SER B  63    -7.772  33.760   9.916  1.00  0.00      H
ATOM   3715 2HB  SER B  63    -8.648  34.553   8.584  1.00  0.00      H
ATOM   3716  HG  SER B  63    -6.730  32.485   8.307  1.00  0.00      H
ATOM   3717  N   GLY B  64   -11.016  33.050   7.328  1.00  0.22      N
ATOM   3718  CA  GLY B  64   -11.651  32.974   6.044  1.00  0.22      C
ATOM   3719  C   GLY B  64   -13.081  33.365   6.233  1.00  0.22      C
ATOM   3720  O   GLY B  64   -13.461  33.869   7.288  1.00  0.22      O
ATOM   3721  H   GLY B  64   -11.410  33.693   8.006  1.00  0.00      H
ATOM   3722 1HA  GLY B  64   -11.495  32.015   5.554  1.00  0.00      H
ATOM   3723 2HA  GLY B  64   -11.200  33.716   5.359  1.00  0.00      H
ATOM   3724  N   GLU B  65   -13.918  33.138   5.199  1.00  0.19      N
ATOM   3725  CA  GLU B  65   -15.307  33.483   5.302  1.00  0.19      C
ATOM   3726  C   GLU B  65   -16.074  32.222   5.515  1.00  0.19      C
ATOM   3727  O   GLU B  65   -15.711  31.164   5.000  1.00  0.19      O
ATOM   3728  CB  GLU B  65   -15.910  34.122   4.040  1.00  0.19      C
ATOM   3729  CG  GLU B  65   -15.403  35.529   3.730  1.00  0.19      C
ATOM   3730  CD  GLU B  65   -16.200  36.045   2.539  1.00  0.19      C
ATOM   3731  OE1 GLU B  65   -16.409  35.260   1.575  1.00  0.19      O
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ATOM	3732	OE2	GLU	B	65	-16.625	37.231	2.584	1.00	0.19	O1-
ATOM	3733	H	GLU	B	65	-13.592	32.750	4.322	1.00	0.00	H
ATOM	3734	HA	GLU	B	65	-15.418	34.200	6.112	1.00	0.00	H
ATOM	3735	1HB	GLU	B	65	-16.996	34.170	4.211	1.00	0.00	H
ATOM	3736	2HB	GLU	B	65	-15.743	33.449	3.182	1.00	0.00	H
ATOM	3737	1HG	GLU	B	65	-14.334	35.505	3.473	1.00	0.00	H
ATOM	3738	2HG	GLU	B	65	-15.576	36.196	4.587	1.00	0.00	H
ATOM	3739	N	TYR	B	66	-17.164	32.306	6.304	1.00	0.22	N
ATOM	3740	CA	TYR	B	66	-17.970	31.148	6.549	1.00	0.22	C
ATOM	3741	C	TYR	B	66	-19.342	31.425	6.020	1.00	0.22	C
ATOM	3742	O	TYR	B	66	-19.839	32.548	6.099	1.00	0.22	O
ATOM	3743	CB	TYR	B	66	-18.124	30.795	8.040	1.00	0.22	C
ATOM	3744	CG	TYR	B	66	-16.782	30.418	8.567	1.00	0.22	C
ATOM	3745	CD1	TYR	B	66	-15.918	31.384	9.033	1.00	0.22	C
ATOM	3746	CD2	TYR	B	66	-16.382	29.102	8.592	1.00	0.22	C
ATOM	3747	CE1	TYR	B	66	-14.679	31.041	9.522	1.00	0.22	C
ATOM	3748	CE2	TYR	B	66	-15.144	28.752	9.078	1.00	0.22	C
ATOM	3749	CZ	TYR	B	66	-14.291	29.723	9.544	1.00	0.22	C
ATOM	3750	OH	TYR	B	66	-13.021	29.367	10.044	1.00	0.22	O
ATOM	3751	H	TYR	B	66	-17.342	33.146	6.847	1.00	0.00	H
ATOM	3752	HA	TYR	B	66	-17.532	30.275	6.047	1.00	0.00	H
ATOM	3753	1HB	TYR	B	66	-18.806	29.929	8.084	1.00	0.00	H
ATOM	3754	2HB	TYR	B	66	-18.599	31.552	8.651	1.00	0.00	H
ATOM	3755	HD1	TYR	B	66	-16.191	32.433	9.006	1.00	0.00	H
ATOM	3756	HD2	TYR	B	66	-17.046	28.325	8.221	1.00	0.00	H
ATOM	3757	HE1	TYR	B	66	-13.997	31.799	9.847	1.00	0.00	H
ATOM	3758	HE2	TYR	B	66	-14.837	27.708	9.090	1.00	0.00	H
ATOM	3759	HH	TYR	B	66	-12.338	29.749	9.466	1.00	0.00	H
ATOM	3760	N	LYS	B	67	-19.979	30.391	5.440	1.00	0.45	N
ATOM	3761	CA	LYS	B	67	-21.299	30.533	4.900	1.00	0.45	C
ATOM	3762	C	LYS	B	67	-22.038	29.279	5.238	1.00	0.45	C
ATOM	3763	O	LYS	B	67	-21.429	28.239	5.482	1.00	0.45	O
ATOM	3764	CB	LYS	B	67	-21.302	30.655	3.371	1.00	0.45	C
ATOM	3765	CG	LYS	B	67	-20.591	31.913	2.871	1.00	0.45	C
ATOM	3766	CD	LYS	B	67	-20.205	31.847	1.394	1.00	0.45	C
ATOM	3767	CE	LYS	B	67	-18.982	30.964	1.129	1.00	0.45	C
ATOM	3768	NZ	LYS	B	67	-17.786	31.563	1.761	1.00	0.45	N1+
ATOM	3769	H	LYS	B	67	-19.578	29.462	5.412	1.00	0.00	H
ATOM	3770	HA	LYS	B	67	-21.802	31.400	5.361	1.00	0.00	H
ATOM	3771	1HB	LYS	B	67	-22.349	30.675	3.016	1.00	0.00	H
ATOM	3772	2HB	LYS	B	67	-20.856	29.741	2.952	1.00	0.00	H
ATOM	3773	1HG	LYS	B	67	-19.696	32.152	3.468	1.00	0.00	H
ATOM	3774	2HG	LYS	B	67	-21.325	32.705	3.088	1.00	0.00	H
ATOM	3775	1HD	LYS	B	67	-19.999	32.836	0.954	1.00	0.00	H
ATOM	3776	2HD	LYS	B	67	-21.053	31.439	0.812	1.00	0.00	H
ATOM	3777	1HE	LYS	B	67	-18.775	30.885	0.049	1.00	0.00	H
ATOM	3778	2HE	LYS	B	67	-19.097	29.947	1.529	1.00	0.00	H
ATOM	3779	1HZ	LYS	B	67	-16.926	31.112	1.480	1.00	0.00	H
ATOM	3780	2HZ	LYS	B	67	-17.675	32.541	1.507	1.00	0.00	H
ATOM	3781	3HZ	LYS	B	67	-17.826	31.529	2.772	1.00	0.00	H
ATOM	3782	N	CYS	B	68	-23.383	29.354	5.281	1.00	0.52	N
ATOM	3783	CA	CYS	B	68	-24.163	28.196	5.606	1.00	0.52	C
ATOM	3784	C	CYS	B	68	-25.428	28.222	4.811	1.00	0.52	C
ATOM	3785	O	CYS	B	68	-25.970	29.288	4.524	1.00	0.52	O
ATOM	3786	CB	CYS	B	68	-24.621	28.179	7.065	1.00	0.52	C
ATOM	3787	SG	CYS	B	68	-25.956	26.981	7.311	1.00	0.52	S
ATOM	3788	H	CYS	B	68	-23.896	30.171	5.002	1.00	0.00	H
ATOM	3789	HA	CYS	B	68	-23.591	27.287	5.374	1.00	0.00	H
ATOM	3790	1HB	CYS	B	68	-24.992	29.178	7.349	1.00	0.00	H
ATOM	3791	2HB	CYS	B	68	-23.803	27.921	7.723	1.00	0.00	H
ATOM	3792	N	GLN	B	69	-25.931	27.034	4.420	1.00	0.27	N
ATOM	3793	CA	GLN	B	69	-27.206	27.001	3.771	1.00	0.27	C
ATOM	3794	C	GLN	B	69	-27.926	25.780	4.234	1.00	0.27	C

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ATOM   3795  O   GLN B  69  -27.323  24.828   4.727  1.00  0.27      O
ATOM   3796  CB  GLN B  69  -27.150  26.927   2.237  1.00  0.27      C
ATOM   3797  CG  GLN B  69  -26.530  25.639   1.700  1.00  0.27      C
ATOM   3798  CD  GLN B  69  -26.687  25.656   0.186  1.00  0.27      C
ATOM   3799  OE1 GLN B  69  -27.435  26.466  -0.360  1.00  0.27      O
ATOM   3800  NE2 GLN B  69  -25.967  24.736  -0.511  1.00  0.27      N
ATOM   3801  H   GLN B  69  -25.524  26.151   4.696  1.00  0.00      H
ATOM   3802  HA  GLN B  69  -27.798  27.874   4.081  1.00  0.00      H
ATOM   3803 1HB  GLN B  69  -26.598  27.802   1.859  1.00  0.00      H
ATOM   3804 2HB  GLN B  69  -28.189  27.025   1.876  1.00  0.00      H
ATOM   3805 1HG  GLN B  69  -27.185  24.835   2.029  1.00  0.00      H
ATOM   3806 2HG  GLN B  69  -25.497  25.492   2.036  1.00  0.00      H
ATOM   3807 1HE2 GLN B  69  -25.235  24.219  -0.068  1.00  0.00      H
ATOM   3808 2HE2 GLN B  69  -25.927  24.943  -1.496  1.00  0.00      H
ATOM   3809  N   HIS B  70  -29.263  25.803   4.102  1.00  0.11      N
ATOM   3810  CA  HIS B  70  -30.076  24.678   4.443  1.00  0.11      C
ATOM   3811  C   HIS B  70  -30.899  24.396   3.237  1.00  0.11      C
ATOM   3812  O   HIS B  70  -30.877  25.150   2.267  1.00  0.11      O
ATOM   3813  CB  HIS B  70  -31.043  24.920   5.612  1.00  0.11      C
ATOM   3814  CG  HIS B  70  -30.339  24.997   6.930  1.00  0.11      C
ATOM   3815  ND1 HIS B  70  -29.937  23.891   7.646  1.00  0.11      N
ATOM   3816  CD2 HIS B  70  -29.953  26.075   7.664  1.00  0.11      C
ATOM   3817  CE1 HIS B  70  -29.331  24.351   8.768  1.00  0.11      C
ATOM   3818  NE2 HIS B  70  -29.316  25.671   8.824  1.00  0.11      N
ATOM   3819  H   HIS B  70  -29.699  26.490   3.501  1.00  0.00      H
ATOM   3820  HA  HIS B  70  -29.447  23.799   4.660  1.00  0.00      H
ATOM   3821 1HB  HIS B  70  -31.766  24.089   5.657  1.00  0.00      H
ATOM   3822 2HB  HIS B  70  -31.637  25.829   5.471  1.00  0.00      H
ATOM   3823  HD2 HIS B  70  -30.099  27.123   7.447  1.00  0.00      H
ATOM   3824  HE1 HIS B  70  -29.020  23.707   9.580  1.00  0.00      H
ATOM   3825  HE2 HIS B  70  -29.018  26.241   9.593  1.00  0.00      H
ATOM   3826  N   GLN B  71  -31.625  23.266   3.251  1.00  0.12      N
ATOM   3827  CA  GLN B  71  -32.441  22.954   2.121  1.00  0.12      C
ATOM   3828  C   GLN B  71  -33.468  24.032   2.009  1.00  0.12      C
ATOM   3829  O   GLN B  71  -33.753  24.525   0.920  1.00  0.12      O
ATOM   3830  CB  GLN B  71  -33.197  21.623   2.276  1.00  0.12      C
ATOM   3831  CG  GLN B  71  -32.304  20.379   2.279  1.00  0.12      C
ATOM   3832  CD  GLN B  71  -31.895  20.083   0.843  1.00  0.12      C
ATOM   3833  OE1 GLN B  71  -32.123  20.883  -0.063  1.00  0.12      O
ATOM   3834  NE2 GLN B  71  -31.272  18.896   0.623  1.00  0.12      N
ATOM   3835  H   GLN B  71  -31.669  22.648   4.050  1.00  0.00      H
ATOM   3836  HA  GLN B  71  -31.834  22.977   1.204  1.00  0.00      H
ATOM   3837 1HB  GLN B  71  -33.962  21.545   1.481  1.00  0.00      H
ATOM   3838 2HB  GLN B  71  -33.758  21.654   3.225  1.00  0.00      H
ATOM   3839 1HG  GLN B  71  -32.874  19.519   2.668  1.00  0.00      H
ATOM   3840 2HG  GLN B  71  -31.411  20.534   2.901  1.00  0.00      H
ATOM   3841 1HE2 GLN B  71  -31.125  18.252   1.392  1.00  0.00      H
ATOM   3842 2HE2 GLN B  71  -31.056  18.634  -0.322  1.00  0.00      H
ATOM   3843  N   GLN B  72  -34.046  24.426   3.157  1.00  0.21      N
ATOM   3844  CA  GLN B  72  -35.117  25.377   3.188  1.00  0.21      C
ATOM   3845  C   GLN B  72  -34.660  26.737   2.761  1.00  0.21      C
ATOM   3846  O   GLN B  72  -35.308  27.383   1.940  1.00  0.21      O
ATOM   3847  CB  GLN B  72  -35.698  25.546   4.602  1.00  0.21      C
ATOM   3848  CG  GLN B  72  -36.104  24.222   5.252  1.00  0.21      C
ATOM   3849  CD  GLN B  72  -37.057  23.494   4.316  1.00  0.21      C
ATOM   3850  OE1 GLN B  72  -37.630  24.082   3.400  1.00  0.21      O
ATOM   3851  NE2 GLN B  72  -37.224  22.165   4.547  1.00  0.21      N
ATOM   3852  H   GLN B  72  -33.776  24.011   4.029  1.00  0.00      H
ATOM   3853  HA  GLN B  72  -35.857  25.085   2.433  1.00  0.00      H
ATOM   3854 1HB  GLN B  72  -36.568  26.218   4.507  1.00  0.00      H
ATOM   3855 2HB  GLN B  72  -34.952  26.056   5.225  1.00  0.00      H
ATOM   3856 1HG  GLN B  72  -36.614  24.285   6.211  1.00  0.00      H
ATOM   3857 2HG  GLN B  72  -35.212  23.596   5.418  1.00  0.00      H
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ATOM   3858 1HE2 GLN B  72   -36.791  21.725   5.340  1.00  0.00    H
ATOM   3859 2HE2 GLN B  72   -37.890  21.689   3.966  1.00  0.00    H
ATOM   3860  N   VAL B  73   -33.516  27.206   3.298  1.00  0.31    N
ATOM   3861  CA  VAL B  73   -33.130  28.569   3.072  1.00  0.31    C
ATOM   3862  C   VAL B  73   -32.145  28.702   1.959  1.00  0.31    C
ATOM   3863  O   VAL B  73   -31.658  27.727   1.388  1.00  0.31    O
ATOM   3864  CB  VAL B  73   -32.521  29.216   4.283  1.00  0.31    C
ATOM   3865  CG1 VAL B  73   -33.583  29.264   5.395  1.00  0.31    C
ATOM   3866  CG2 VAL B  73   -31.247  28.442   4.666  1.00  0.31    C
ATOM   3867  H   VAL B  73   -32.902  26.625   3.835  1.00  0.00    H
ATOM   3868  HA  VAL B  73   -34.032  29.136   2.786  1.00  0.00    H
ATOM   3869  HB  VAL B  73   -32.166  30.225   4.101  1.00  0.00    H
ATOM   3870 1HG1 VAL B  73   -33.219  29.820   6.275  1.00  0.00    H
ATOM   3871 2HG1 VAL B  73   -34.505  29.762   5.053  1.00  0.00    H
ATOM   3872 3HG1 VAL B  73   -33.855  28.254   5.740  1.00  0.00    H
ATOM   3873 1HG2 VAL B  73   -31.260  28.169   5.729  1.00  0.00    H
ATOM   3874 2HG2 VAL B  73   -31.174  27.490   4.129  1.00  0.00    H
ATOM   3875 3HG2 VAL B  73   -30.331  28.965   4.407  1.00  0.00    H
ATOM   3876  N   ASN B  74   -31.857  29.979   1.634  1.00  0.41    N
ATOM   3877  CA  ASN B  74   -30.932  30.413   0.630  1.00  0.41    C
ATOM   3878  C   ASN B  74   -29.580  30.362   1.270  1.00  0.41    C
ATOM   3879  O   ASN B  74   -29.409  29.751   2.322  1.00  0.41    O
ATOM   3880  CB  ASN B  74   -31.202  31.869   0.200  1.00  0.41    C
ATOM   3881  CG  ASN B  74   -30.458  32.179  -1.090  1.00  0.41    C
ATOM   3882  OD1 ASN B  74   -29.812  31.313  -1.676  1.00  0.41    O
ATOM   3883  ND2 ASN B  74   -30.542  33.459  -1.542  1.00  0.41    N
ATOM   3884  H   ASN B  74   -32.331  30.717   2.145  1.00  0.00    H
ATOM   3885  HA  ASN B  74   -30.976  29.713  -0.222  1.00  0.00    H
ATOM   3886 1HB  ASN B  74   -30.921  32.561   1.004  1.00  0.00    H
ATOM   3887 2HB  ASN B  74   -32.278  32.002  -0.003  1.00  0.00    H
ATOM   3888 1HD2 ASN B  74   -30.976  34.179  -0.997  1.00  0.00    H
ATOM   3889 2HD2 ASN B  74   -29.971  33.687  -2.339  1.00  0.00    H
ATOM   3890  N   GLU B  75   -28.567  30.970   0.622  1.00  0.48    N
ATOM   3891  CA  GLU B  75   -27.249  31.003   1.180  1.00  0.48    C
ATOM   3892  C   GLU B  75   -27.241  32.069   2.228  1.00  0.48    C
ATOM   3893  O   GLU B  75   -27.925  33.085   2.100  1.00  0.48    O
ATOM   3894  CB  GLU B  75   -26.170  31.366   0.145  1.00  0.48    C
ATOM   3895  CG  GLU B  75   -26.047  30.340  -0.982  1.00  0.48    C
ATOM   3896  CD  GLU B  75   -25.367  29.103  -0.418  1.00  0.48    C
ATOM   3897  OE1 GLU B  75   -24.699  29.229   0.643  1.00  0.48    O
ATOM   3898  OE2 GLU B  75   -25.503  28.015  -1.039  1.00  0.48    O1-
ATOM   3899  H   GLU B  75   -28.657  31.252  -0.347  1.00  0.00    H
ATOM   3900  HA  GLU B  75   -27.017  30.019   1.621  1.00  0.00    H
ATOM   3901 1HB  GLU B  75   -25.207  31.519   0.665  1.00  0.00    H
ATOM   3902 2HB  GLU B  75   -26.423  32.357  -0.272  1.00  0.00    H
ATOM   3903 1HG  GLU B  75   -25.416  30.732  -1.797  1.00  0.00    H
ATOM   3904 2HG  GLU B  75   -27.009  30.079  -1.450  1.00  0.00    H
ATOM   3905  N   SER B  76   -26.469  31.848   3.309  1.00  0.42    N
ATOM   3906  CA  SER B  76   -26.382  32.800   4.377  1.00  0.42    C
ATOM   3907  C   SER B  76   -25.336  33.802   4.009  1.00  0.42    C
ATOM   3908  O   SER B  76   -24.507  33.553   3.136  1.00  0.42    O
ATOM   3909  CB  SER B  76   -25.956  32.162   5.710  1.00  0.42    C
ATOM   3910  OG  SER B  76   -25.873  33.153   6.720  1.00  0.42    O
ATOM   3911  H   SER B  76   -26.027  30.945   3.444  1.00  0.00    H
ATOM   3912  HA  SER B  76   -27.347  33.318   4.497  1.00  0.00    H
ATOM   3913 1HB  SER B  76   -24.918  31.818   5.529  1.00  0.00    H
ATOM   3914 2HB  SER B  76   -26.368  31.266   6.179  1.00  0.00    H
ATOM   3915  HG  SER B  76   -25.076  33.682   6.522  1.00  0.00    H
ATOM   3916  N   GLU B  77   -25.365  34.985   4.660  1.00  0.31    N
ATOM   3917  CA  GLU B  77   -24.357  35.963   4.380  1.00  0.31    C
ATOM   3918  C   GLU B  77   -23.106  35.440   4.998  1.00  0.31    C
ATOM   3919  O   GLU B  77   -23.138  34.721   5.994  1.00  0.31    O
ATOM   3920  CB  GLU B  77   -24.596  37.339   5.023  1.00  0.31    C
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ATOM   3921  CG  GLU B  77  -25.878  38.032   4.571  1.00  0.31    C
ATOM   3922  CD  GLU B  77  -26.987  37.538   5.483  1.00  0.31    C
ATOM   3923  OE1 GLU B  77  -26.707  37.359   6.699  1.00  0.31    O
ATOM   3924  OE2 GLU B  77  -28.123  37.331   4.981  1.00  0.31    O1-
ATOM   3925  H   GLU B  77  -26.107  35.274   5.290  1.00  0.00    H
ATOM   3926  HA  GLU B  77  -24.351  36.141   3.293  1.00  0.00    H
ATOM   3927 1HB  GLU B  77  -23.730  37.950   4.704  1.00  0.00    H
ATOM   3928 2HB  GLU B  77  -24.496  37.287   6.121  1.00  0.00    H
ATOM   3929 1HG  GLU B  77  -26.103  37.866   3.506  1.00  0.00    H
ATOM   3930 2HG  GLU B  77  -25.778  39.121   4.715  1.00  0.00    H
ATOM   3931  N   PRO B  78  -22.004  35.772   4.398  1.00  0.29    N
ATOM   3932  CA  PRO B  78  -20.764  35.287   4.932  1.00  0.29    C
ATOM   3933  C   PRO B  78  -20.323  36.023   6.154  1.00  0.29    C
ATOM   3934  O   PRO B  78  -20.684  37.187   6.323  1.00  0.29    O
ATOM   3935  CB  PRO B  78  -19.756  35.357   3.788  1.00  0.29    C
ATOM   3936  CG  PRO B  78  -20.627  35.223   2.527  1.00  0.29    C
ATOM   3937  CD  PRO B  78  -21.979  35.824   2.944  1.00  0.29    C
ATOM   3938  HA  PRO B  78  -20.930  34.229   5.154  1.00  0.00    H
ATOM   3939 1HB  PRO B  78  -18.975  34.595   3.881  1.00  0.00    H
ATOM   3940 2HB  PRO B  78  -19.253  36.340   3.777  1.00  0.00    H
ATOM   3941 1HG  PRO B  78  -20.743  34.219   2.155  1.00  0.00    H
ATOM   3942 2HG  PRO B  78  -20.192  35.781   1.679  1.00  0.00    H
ATOM   3943 1HD  PRO B  78  -22.062  36.874   2.622  1.00  0.00    H
ATOM   3944 2HD  PRO B  78  -22.791  35.253   2.482  1.00  0.00    H
ATOM   3945  N   VAL B  79  -19.557  35.337   7.022  1.00  0.31    N
ATOM   3946  CA  VAL B  79  -18.978  35.931   8.187  1.00  0.31    C
ATOM   3947  C   VAL B  79  -17.507  35.760   8.006  1.00  0.31    C
ATOM   3948  O   VAL B  79  -17.055  34.693   7.593  1.00  0.31    O
ATOM   3949  CB  VAL B  79  -19.362  35.248   9.465  1.00  0.31    C
ATOM   3950  CG1 VAL B  79  -18.925  33.776   9.386  1.00  0.31    C
ATOM   3951  CG2 VAL B  79  -18.732  36.018  10.638  1.00  0.31    C
ATOM   3952  H   VAL B  79  -19.361  34.360   6.860  1.00  0.00    H
ATOM   3953  HA  VAL B  79  -19.257  36.997   8.216  1.00  0.00    H
ATOM   3954  HB  VAL B  79  -20.462  35.289   9.567  1.00  0.00    H
ATOM   3955 1HG1 VAL B  79  -19.391  33.205  10.210  1.00  0.00    H
ATOM   3956 2HG1 VAL B  79  -19.283  33.319   8.460  1.00  0.00    H
ATOM   3957 3HG1 VAL B  79  -17.846  33.643   9.523  1.00  0.00    H
ATOM   3958 1HG2 VAL B  79  -19.088  35.629  11.607  1.00  0.00    H
ATOM   3959 2HG2 VAL B  79  -17.634  35.926  10.652  1.00  0.00    H
ATOM   3960 3HG2 VAL B  79  -18.990  37.090  10.606  1.00  0.00    H
ATOM   3961  N   TYR B  80  -16.709  36.805   8.294  1.00  0.19    N
ATOM   3962  CA  TYR B  80  -15.305  36.638   8.067  1.00  0.19    C
ATOM   3963  C   TYR B  80  -14.649  36.465   9.394  1.00  0.19    C
ATOM   3964  O   TYR B  80  -14.925  37.197  10.343  1.00  0.19    O
ATOM   3965  CB  TYR B  80  -14.628  37.826   7.359  1.00  0.19    C
ATOM   3966  CG  TYR B  80  -13.244  37.390   7.018  1.00  0.19    C
ATOM   3967  CD1 TYR B  80  -12.214  37.522   7.921  1.00  0.19    C
ATOM   3968  CD2 TYR B  80  -12.983  36.837   5.785  1.00  0.19    C
ATOM   3969  CE1 TYR B  80  -10.942  37.112   7.597  1.00  0.19    C
ATOM   3970  CE2 TYR B  80  -11.714  36.425   5.454  1.00  0.19    C
ATOM   3971  CZ  TYR B  80  -10.692  36.565   6.360  1.00  0.19    C
ATOM   3972  OH  TYR B  80   -9.387  36.143   6.025  1.00  0.19    O
ATOM   3973  H   TYR B  80  -17.008  37.682   8.682  1.00  0.00    H
ATOM   3974  HA  TYR B  80  -15.133  35.776   7.415  1.00  0.00    H
ATOM   3975 1HB  TYR B  80  -14.633  38.725   7.994  1.00  0.00    H
ATOM   3976 2HB  TYR B  80  -15.197  38.081   6.450  1.00  0.00    H
ATOM   3977  HD1 TYR B  80  -12.423  37.965   8.890  1.00  0.00    H
ATOM   3978  HD2 TYR B  80  -13.756  36.817   5.036  1.00  0.00    H
ATOM   3979  HE1 TYR B  80  -10.137  37.169   8.309  1.00  0.00    H
ATOM   3980  HE2 TYR B  80  -11.519  36.016   4.465  1.00  0.00    H
ATOM   3981  HH  TYR B  80   -8.978  35.822   6.837  1.00  0.00    H
ATOM   3982  N   LEU B  81  -13.760  35.460   9.490  1.00  0.08    N
ATOM   3983  CA  LEU B  81  -13.094  35.195  10.729  1.00  0.08    C
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ATOM   3984  C   LEU B  81   -11.635  35.443  10.529  1.00  0.08      C
ATOM   3985  O   LEU B  81   -11.076  35.109   9.485  1.00  0.08      O
ATOM   3986  CB  LEU B  81   -13.250  33.736  11.191  1.00  0.08      C
ATOM   3987  CG  LEU B  81   -12.542  33.429  12.522  1.00  0.08      C
ATOM   3988  CD1 LEU B  81   -13.157  34.234  13.678  1.00  0.08      C
ATOM   3989  CD2 LEU B  81   -12.505  31.918  12.800  1.00  0.08      C
ATOM   3990  H   LEU B  81   -13.530  34.870   8.697  1.00  0.00      H
ATOM   3991  HA  LEU B  81   -13.489  35.875  11.494  1.00  0.00      H
ATOM   3992 1HB  LEU B  81   -12.768  33.124  10.414  1.00  0.00      H
ATOM   3993 2HB  LEU B  81   -14.319  33.473  11.257  1.00  0.00      H
ATOM   3994  HG  LEU B  81   -11.483  33.725  12.421  1.00  0.00      H
ATOM   3995 1HD1 LEU B  81   -12.405  34.520  14.427  1.00  0.00      H
ATOM   3996 2HD1 LEU B  81   -13.691  35.135  13.359  1.00  0.00      H
ATOM   3997 3HD1 LEU B  81   -13.915  33.631  14.207  1.00  0.00      H
ATOM   3998 1HD2 LEU B  81   -11.952  31.695  13.726  1.00  0.00      H
ATOM   3999 2HD2 LEU B  81   -13.519  31.498  12.903  1.00  0.00      H
ATOM   4000 3HD2 LEU B  81   -12.001  31.377  11.982  1.00  0.00      H
ATOM   4001  N   GLU B  82   -10.987  36.068  11.529  1.00  0.09      N
ATOM   4002  CA  GLU B  82    -9.582  36.329  11.444  1.00  0.09      C
ATOM   4003  C   GLU B  82    -8.969  35.717  12.660  1.00  0.09      C
ATOM   4004  O   GLU B  82    -9.443  35.926  13.776  1.00  0.09      O
ATOM   4005  CB  GLU B  82    -9.250  37.831  11.486  1.00  0.09      C
ATOM   4006  CG  GLU B  82    -9.774  38.615  10.282  1.00  0.09      C
ATOM   4007  CD  GLU B  82    -9.587  40.099  10.568  1.00  0.09      C
ATOM   4008  OE1 GLU B  82    -8.557  40.458  11.201  1.00  0.09      O
ATOM   4009  OE2 GLU B  82   -10.477  40.894  10.166  1.00  0.09      O1-
ATOM   4010  H   GLU B  82   -11.437  36.370  12.385  1.00  0.00      H
ATOM   4011  HA  GLU B  82    -9.165  35.902  10.521  1.00  0.00      H
ATOM   4012 1HB  GLU B  82    -8.149  37.899  11.523  1.00  0.00      H
ATOM   4013 2HB  GLU B  82    -9.643  38.266  12.420  1.00  0.00      H
ATOM   4014 1HG  GLU B  82   -10.829  38.415  10.073  1.00  0.00      H
ATOM   4015 2HG  GLU B  82    -9.148  38.392   9.408  1.00  0.00      H
ATOM   4016  N   VAL B  83    -7.896  34.930  12.476  1.00  0.09      N
ATOM   4017  CA  VAL B  83    -7.263  34.328  13.611  1.00  0.09      C
ATOM   4018  C   VAL B  83    -5.907  34.938  13.711  1.00  0.09      C
ATOM   4019  O   VAL B  83    -5.239  35.146  12.700  1.00  0.09      O
ATOM   4020  CB  VAL B  83    -7.069  32.850  13.470  1.00  0.09      C
ATOM   4021  CG1 VAL B  83    -8.451  32.182  13.377  1.00  0.09      C
ATOM   4022  CG2 VAL B  83    -6.170  32.598  12.250  1.00  0.09      C
ATOM   4023  H   VAL B  83    -7.390  34.867  11.611  1.00  0.00      H
ATOM   4024  HA  VAL B  83    -7.846  34.520  14.521  1.00  0.00      H
ATOM   4025  HB  VAL B  83    -6.558  32.481  14.379  1.00  0.00      H
ATOM   4026 1HG1 VAL B  83    -8.397  31.094  13.515  1.00  0.00      H
ATOM   4027 2HG1 VAL B  83    -9.129  32.558  14.160  1.00  0.00      H
ATOM   4028 3HG1 VAL B  83    -8.933  32.369  12.403  1.00  0.00      H
ATOM   4029 1HG2 VAL B  83    -6.508  31.805  11.601  1.00  0.00      H
ATOM   4030 2HG2 VAL B  83    -6.129  33.419  11.520  1.00  0.00      H
ATOM   4031 3HG2 VAL B  83    -5.180  32.524  12.716  1.00  0.00      H
ATOM   4032  N   PHE B  84    -5.469  35.260  14.943  1.00  0.23      N
ATOM   4033  CA  PHE B  84    -4.182  35.872  15.076  1.00  0.23      C
ATOM   4034  C   PHE B  84    -3.459  35.119  16.138  1.00  0.23      C
ATOM   4035  O   PHE B  84    -4.077  34.442  16.959  1.00  0.23      O
ATOM   4036  CB  PHE B  84    -4.229  37.314  15.606  1.00  0.23      C
ATOM   4037  CG  PHE B  84    -5.215  38.093  14.810  1.00  0.23      C
ATOM   4038  CD1 PHE B  84    -4.889  38.632  13.590  1.00  0.23      C
ATOM   4039  CD2 PHE B  84    -6.487  38.271  15.293  1.00  0.23      C
ATOM   4040  CE1 PHE B  84    -5.814  39.344  12.865  1.00  0.23      C
ATOM   4041  CE2 PHE B  84    -7.414  38.983  14.572  1.00  0.23      C
ATOM   4042  CZ  PHE B  84    -7.081  39.525  13.357  1.00  0.23      C
ATOM   4043  H   PHE B  84    -6.045  35.205  15.777  1.00  0.00      H
ATOM   4044  HA  PHE B  84    -3.619  35.831  14.132  1.00  0.00      H
ATOM   4045 1HB  PHE B  84    -3.221  37.757  15.548  1.00  0.00      H
ATOM   4046 2HB  PHE B  84    -4.503  37.318  16.673  1.00  0.00      H
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ATOM   4047  HD1 PHE B  84    -3.881  38.507  13.203  1.00  0.00    H
ATOM   4048  HD2 PHE B  84    -6.776  37.774  16.212  1.00  0.00    H
ATOM   4049  HE1 PHE B  84    -5.532  39.800  11.919  1.00  0.00    H
ATOM   4050  HE2 PHE B  84    -8.434  38.672  14.642  1.00  0.00    H
ATOM   4051  HZ  PHE B  84    -7.738  40.278  13.011  1.00  0.00    H
ATOM   4052  N   SER B  85    -2.115  35.187  16.131  1.00  0.34    N
ATOM   4053  CA  SER B  85    -1.395  34.574  17.204  1.00  0.34    C
ATOM   4054  C   SER B  85    -0.673  35.676  17.915  1.00  0.34    C
ATOM   4055  O   SER B  85     0.388  36.126  17.488  1.00  0.34    O
ATOM   4056  CB  SER B  85    -0.370  33.520  16.748  1.00  0.34    C
ATOM   4057  OG  SER B  85     0.610  34.106  15.906  1.00  0.34    O
ATOM   4058  H   SER B  85    -1.592  35.821  15.547  1.00  0.00    H
ATOM   4059  HA  SER B  85    -2.077  34.071  17.905  1.00  0.00    H
ATOM   4060 1HB  SER B  85    -0.858  32.718  16.180  1.00  0.00    H
ATOM   4061 2HB  SER B  85     0.105  33.091  17.647  1.00  0.00    H
ATOM   4062  HG  SER B  85     0.896  34.924  16.364  1.00  0.00    H
ATOM   4063  N   ASP B  86    -1.255  36.148  19.032  1.00  0.23    N
ATOM   4064  CA  ASP B  86    -0.646  37.204  19.785  1.00  0.23    C
ATOM   4065  C   ASP B  86    -0.958  36.941  21.219  1.00  0.23    C
ATOM   4066  O   ASP B  86    -1.850  36.156  21.535  1.00  0.23    O
ATOM   4067  CB  ASP B  86    -1.209  38.597  19.458  1.00  0.23    C
ATOM   4068  CG  ASP B  86    -0.750  38.977  18.058  1.00  0.23    C
ATOM   4069  OD1 ASP B  86     0.436  38.705  17.730  1.00  0.23    O
ATOM   4070  OD2 ASP B  86    -1.581  39.538  17.294  1.00  0.23    O1-
ATOM   4071  H   ASP B  86    -2.098  35.791  19.438  1.00  0.00    H
ATOM   4072  HA  ASP B  86     0.450  37.190  19.655  1.00  0.00    H
ATOM   4073 1HB  ASP B  86    -0.728  39.310  20.149  1.00  0.00    H
ATOM   4074 2HB  ASP B  86    -2.265  38.846  19.445  1.00  0.00    H
ATOM   4075  N   TRP B  87    -0.199  37.567  22.136  1.00  0.14    N
ATOM   4076  CA  TRP B  87    -0.482  37.366  23.524  1.00  0.14    C
ATOM   4077  C   TRP B  87    -1.782  37.995  23.895  1.00  0.14    C
ATOM   4078  O   TRP B  87    -2.587  37.390  24.598  1.00  0.14    O
ATOM   4079  CB  TRP B  87     0.603  37.882  24.479  1.00  0.14    C
ATOM   4080  CG  TRP B  87     1.760  36.923  24.577  1.00  0.14    C
ATOM   4081  CD1 TRP B  87     3.025  36.993  24.074  1.00  0.14    C
ATOM   4082  CD2 TRP B  87     1.660  35.660  25.254  1.00  0.14    C
ATOM   4083  NE1 TRP B  87     3.722  35.852  24.401  1.00  0.14    N
ATOM   4084  CE2 TRP B  87     2.892  35.022  25.126  1.00  0.14    C
ATOM   4085  CE3 TRP B  87     0.621  35.080  25.924  1.00  0.14    C
ATOM   4086  CZ2 TRP B  87     3.106  33.786  25.670  1.00  0.14    C
ATOM   4087  CZ3 TRP B  87     0.839  33.837  26.474  1.00  0.14    C
ATOM   4088  CH2 TRP B  87     2.058  33.201  26.350  1.00  0.14    C
ATOM   4089  H   TRP B  87     0.548  38.189  21.872  1.00  0.00    H
ATOM   4090  HA  TRP B  87    -0.614  36.285  23.692  1.00  0.00    H
ATOM   4091 1HB  TRP B  87     0.152  37.992  25.482  1.00  0.00    H
ATOM   4092 2HB  TRP B  87     0.938  38.892  24.197  1.00  0.00    H
ATOM   4093  HD1 TRP B  87     3.478  37.795  23.504  1.00  0.00    H
ATOM   4094  HE1 TRP B  87     4.680  35.678  24.202  1.00  0.00    H
ATOM   4095  HE3 TRP B  87    -0.335  35.580  26.045  1.00  0.00    H
ATOM   4096  HZ2 TRP B  87     4.070  33.292  25.578  1.00  0.00    H
ATOM   4097  HZ3 TRP B  87     0.071  33.373  27.066  1.00  0.00    H
ATOM   4098  HH2 TRP B  87     2.209  32.237  26.826  1.00  0.00    H
ATOM   4099  N   LEU B  88    -2.035  39.229  23.423  1.00  0.12    N
ATOM   4100  CA  LEU B  88    -3.244  39.894  23.818  1.00  0.12    C
ATOM   4101  C   LEU B  88    -3.845  40.527  22.607  1.00  0.12    C
ATOM   4102  O   LEU B  88    -3.126  40.978  21.717  1.00  0.12    O
ATOM   4103  CB  LEU B  88    -2.988  41.028  24.827  1.00  0.12    C
ATOM   4104  CG  LEU B  88    -4.252  41.777  25.294  1.00  0.12    C
ATOM   4105  CD1 LEU B  88    -5.169  40.882  26.135  1.00  0.12    C
ATOM   4106  CD2 LEU B  88    -3.893  43.089  26.012  1.00  0.12    C
ATOM   4107  H   LEU B  88    -1.477  39.686  22.720  1.00  0.00    H
ATOM   4108  HA  LEU B  88    -3.946  39.167  24.244  1.00  0.00    H
ATOM   4109 1HB  LEU B  88    -2.285  41.747  24.367  1.00  0.00    H
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ATOM   4110 2HB  LEU B  88    -2.468  40.616  25.711  1.00  0.00    H
ATOM   4111  HG  LEU B  88    -4.825  42.096  24.412  1.00  0.00    H
ATOM   4112 1HD1 LEU B  88    -6.215  40.971  25.827  1.00  0.00    H
ATOM   4113 2HD1 LEU B  88    -4.833  39.841  26.171  1.00  0.00    H
ATOM   4114 3HD1 LEU B  88    -5.149  41.201  27.192  1.00  0.00    H
ATOM   4115 1HD2 LEU B  88    -4.793  43.673  26.263  1.00  0.00    H
ATOM   4116 2HD2 LEU B  88    -3.348  42.897  26.951  1.00  0.00    H
ATOM   4117 3HD2 LEU B  88    -3.245  43.720  25.387  1.00  0.00    H
ATOM   4118  N   LEU B  89    -5.192  40.561  22.535  1.00  0.11    N
ATOM   4119  CA  LEU B  89    -5.817  41.207  21.418  1.00  0.11    C
ATOM   4120  C   LEU B  89    -7.020  41.926  21.934  1.00  0.11    C
ATOM   4121  O   LEU B  89    -7.608  41.536  22.942  1.00  0.11    O
ATOM   4122  CB  LEU B  89    -6.316  40.242  20.325  1.00  0.11    C
ATOM   4123  CG  LEU B  89    -6.996  40.936  19.129  1.00  0.11    C
ATOM   4124  CD1 LEU B  89    -6.001  41.822  18.356  1.00  0.11    C
ATOM   4125  CD2 LEU B  89    -7.712  39.917  18.228  1.00  0.11    C
ATOM   4126  H   LEU B  89    -5.791  40.201  23.266  1.00  0.00    H
ATOM   4127  HA  LEU B  89    -5.075  41.763  20.868  1.00  0.00    H
ATOM   4128 1HB  LEU B  89    -7.014  39.506  20.758  1.00  0.00    H
ATOM   4129 2HB  LEU B  89    -5.451  39.693  19.917  1.00  0.00    H
ATOM   4130  HG  LEU B  89    -7.828  41.548  19.479  1.00  0.00    H
ATOM   4131 1HD1 LEU B  89    -6.459  42.253  17.451  1.00  0.00    H
ATOM   4132 2HD1 LEU B  89    -5.641  42.666  18.958  1.00  0.00    H
ATOM   4133 3HD1 LEU B  89    -5.126  41.235  18.030  1.00  0.00    H
ATOM   4134 1HD2 LEU B  89    -8.142  40.512  17.418  1.00  0.00    H
ATOM   4135 2HD2 LEU B  89    -7.007  39.183  17.817  1.00  0.00    H
ATOM   4136 3HD2 LEU B  89    -8.511  39.382  18.761  1.00  0.00    H
ATOM   4137  N   LEU B  90    -7.400  43.026  21.259  1.00  0.11    N
ATOM   4138  CA  LEU B  90    -8.597  43.700  21.649  1.00  0.11    C
ATOM   4139  C   LEU B  90    -9.606  43.186  20.677  1.00  0.11    C
ATOM   4140  O   LEU B  90    -9.404  43.266  19.467  1.00  0.11    O
ATOM   4141  CB  LEU B  90    -8.527  45.232  21.510  1.00  0.11    C
ATOM   4142  CG  LEU B  90    -9.818  45.948  21.950  1.00  0.11    C
ATOM   4143  CD1 LEU B  90   -10.083  45.729  23.448  1.00  0.11    C
ATOM   4144  CD2 LEU B  90    -9.793  47.437  21.568  1.00  0.11    C
ATOM   4145  H   LEU B  90    -6.910  43.370  20.450  1.00  0.00    H
ATOM   4146  HA  LEU B  90    -8.843  43.446  22.688  1.00  0.00    H
ATOM   4147 1HB  LEU B  90    -8.289  45.492  20.463  1.00  0.00    H
ATOM   4148 2HB  LEU B  90    -7.683  45.608  22.117  1.00  0.00    H
ATOM   4149  HG  LEU B  90   -10.652  45.497  21.379  1.00  0.00    H
ATOM   4150 1HD1 LEU B  90   -11.099  45.356  23.615  1.00  0.00    H
ATOM   4151 2HD1 LEU B  90    -9.407  44.997  23.914  1.00  0.00    H
ATOM   4152 3HD1 LEU B  90    -9.921  46.663  24.002  1.00  0.00    H
ATOM   4153 1HD2 LEU B  90   -10.779  47.894  21.677  1.00  0.00    H
ATOM   4154 2HD2 LEU B  90    -9.068  47.981  22.192  1.00  0.00    H
ATOM   4155 3HD2 LEU B  90    -9.494  47.554  20.513  1.00  0.00    H
ATOM   4156  N   GLN B  91   -10.719  42.628  21.185  1.00  0.11    N
ATOM   4157  CA  GLN B  91   -11.640  41.998  20.289  1.00  0.11    C
ATOM   4158  C   GLN B  91   -12.857  42.848  20.152  1.00  0.11    C
ATOM   4159  O   GLN B  91   -13.277  43.520  21.093  1.00  0.11    O
ATOM   4160  CB  GLN B  91   -12.096  40.612  20.782  1.00  0.11    C
ATOM   4161  CG  GLN B  91   -10.956  39.593  20.886  1.00  0.11    C
ATOM   4162  CD  GLN B  91   -11.531  38.284  21.415  1.00  0.11    C
ATOM   4163  OE1 GLN B  91   -12.410  38.286  22.275  1.00  0.11    O
ATOM   4164  NE2 GLN B  91   -11.026  37.136  20.890  1.00  0.11    N
ATOM   4165  H   GLN B  91   -10.874  42.521  22.183  1.00  0.00    H
ATOM   4166  HA  GLN B  91   -11.163  41.837  19.308  1.00  0.00    H
ATOM   4167 1HB  GLN B  91   -12.816  40.237  20.042  1.00  0.00    H
ATOM   4168 2HB  GLN B  91   -12.614  40.719  21.748  1.00  0.00    H
ATOM   4169 1HG  GLN B  91   -10.184  39.916  21.606  1.00  0.00    H
ATOM   4170 2HG  GLN B  91   -10.464  39.476  19.910  1.00  0.00    H
ATOM   4171 1HE2 GLN B  91   -10.465  37.207  20.058  1.00  0.00    H
ATOM   4172 2HE2 GLN B  91   -11.449  36.265  21.152  1.00  0.00    H
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ATOM   4173  N   ALA B  92  -13.435  42.855  18.936  1.00  0.18     N
ATOM   4174  CA  ALA B  92  -14.630  43.605  18.701  1.00  0.18     C
ATOM   4175  C   ALA B  92  -15.533  42.758  17.870  1.00  0.18     C
ATOM   4176  O   ALA B  92  -15.082  41.941  17.072  1.00  0.18     O
ATOM   4177  CB  ALA B  92  -14.397  44.910  17.923  1.00  0.18     C
ATOM   4178  H   ALA B  92  -13.113  42.309  18.152  1.00  0.00     H
ATOM   4179  HA  ALA B  92  -15.098  43.889  19.650  1.00  0.00     H
ATOM   4180 1HB  ALA B  92  -15.350  45.450  17.815  1.00  0.00     H
ATOM   4181 2HB  ALA B  92  -13.693  45.562  18.463  1.00  0.00     H
ATOM   4182 3HB  ALA B  92  -13.990  44.720  16.918  1.00  0.00     H
ATOM   4183  N   SER B  93  -16.852  42.907  18.076  1.00  0.25     N
ATOM   4184  CA  SER B  93  -17.796  42.156  17.309  1.00  0.25     C
ATOM   4185  C   SER B  93  -17.756  42.639  15.893  1.00  0.25     C
ATOM   4186  O   SER B  93  -17.703  41.842  14.957  1.00  0.25     O
ATOM   4187  CB  SER B  93  -19.230  42.324  17.826  1.00  0.25     C
ATOM   4188  OG  SER B  93  -20.123  41.558  17.034  1.00  0.25     O
ATOM   4189  H   SER B  93  -17.207  43.526  18.787  1.00  0.00     H
ATOM   4190  HA  SER B  93  -17.536  41.086  17.324  1.00  0.00     H
ATOM   4191 1HB  SER B  93  -19.542  43.384  17.844  1.00  0.00     H
ATOM   4192 2HB  SER B  93  -19.314  41.932  18.849  1.00  0.00     H
ATOM   4193  HG  SER B  93  -20.011  41.846  16.114  1.00  0.00     H
ATOM   4194  N   ALA B  94  -17.769  43.973  15.694  1.00  0.19     N
ATOM   4195  CA  ALA B  94  -17.777  44.482  14.351  1.00  0.19     C
ATOM   4196  C   ALA B  94  -16.919  45.705  14.290  1.00  0.19     C
ATOM   4197  O   ALA B  94  -16.764  46.431  15.271  1.00  0.19     O
ATOM   4198  CB  ALA B  94  -19.179  44.880  13.860  1.00  0.19     C
ATOM   4199  H   ALA B  94  -17.658  44.650  16.428  1.00  0.00     H
ATOM   4200  HA  ALA B  94  -17.356  43.726  13.667  1.00  0.00     H
ATOM   4201 1HB  ALA B  94  -19.117  45.246  12.823  1.00  0.00     H
ATOM   4202 2HB  ALA B  94  -19.858  44.014  13.878  1.00  0.00     H
ATOM   4203 3HB  ALA B  94  -19.612  45.677  14.484  1.00  0.00     H
ATOM   4204  N   GLU B  95  -16.301  45.923  13.114  1.00  0.12     N
ATOM   4205  CA  GLU B  95  -15.454  47.050  12.861  1.00  0.12     C
ATOM   4206  C   GLU B  95  -16.282  48.297  12.802  1.00  0.12     C
ATOM   4207  O   GLU B  95  -15.920  49.321  13.378  1.00  0.12     O
ATOM   4208  CB  GLU B  95  -14.711  46.900  11.522  1.00  0.12     C
ATOM   4209  CG  GLU B  95  -13.753  45.702  11.506  1.00  0.12     C
ATOM   4210  CD  GLU B  95  -13.312  45.440  10.073  1.00  0.12     C
ATOM   4211  OE1 GLU B  95  -13.538  46.328   9.208  1.00  0.12     O
ATOM   4212  OE2 GLU B  95  -12.742  44.344   9.826  1.00  0.12     O1-
ATOM   4213  H   GLU B  95  -16.316  45.238  12.374  1.00  0.00     H
ATOM   4214  HA  GLU B  95  -14.722  47.164  13.677  1.00  0.00     H
ATOM   4215 1HB  GLU B  95  -14.146  47.836  11.359  1.00  0.00     H
ATOM   4216 2HB  GLU B  95  -15.448  46.820  10.703  1.00  0.00     H
ATOM   4217 1HG  GLU B  95  -14.200  44.777  11.906  1.00  0.00     H
ATOM   4218 2HG  GLU B  95  -12.869  45.899  12.134  1.00  0.00     H
ATOM   4219  N   VAL B  96  -17.436  48.236  12.110  1.00  0.11     N
ATOM   4220  CA  VAL B  96  -18.234  49.417  11.956  1.00  0.11     C
ATOM   4221  C   VAL B  96  -19.504  49.229  12.709  1.00  0.11     C
ATOM   4222  O   VAL B  96  -20.025  48.119  12.813  1.00  0.11     O
ATOM   4223  CB  VAL B  96  -18.599  49.704  10.531  1.00  0.11     C
ATOM   4224  CG1 VAL B  96  -19.514  50.942  10.495  1.00  0.11     C
ATOM   4225  CG2 VAL B  96  -17.299  49.864   9.726  1.00  0.11     C
ATOM   4226  H   VAL B  96  -17.804  47.378  11.744  1.00  0.00     H
ATOM   4227  HA  VAL B  96  -17.676  50.279  12.332  1.00  0.00     H
ATOM   4228  HB  VAL B  96  -19.167  48.857  10.104  1.00  0.00     H
ATOM   4229 1HG1 VAL B  96  -19.610  51.278   9.448  1.00  0.00     H
ATOM   4230 2HG1 VAL B  96  -20.517  50.663  10.851  1.00  0.00     H
ATOM   4231 3HG1 VAL B  96  -19.099  51.777  11.077  1.00  0.00     H
ATOM   4232 1HG2 VAL B  96  -17.491  50.218   8.699  1.00  0.00     H
ATOM   4233 2HG2 VAL B  96  -16.616  50.584  10.198  1.00  0.00     H
ATOM   4234 3HG2 VAL B  96  -16.754  48.909   9.632  1.00  0.00     H
ATOM   4235  N   VAL B  97  -20.028  50.335  13.268  1.00  0.10     N
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ATOM   4236  CA  VAL B  97   -21.230  50.266  14.039  1.00  0.10      C
ATOM   4237  C   VAL B  97   -22.100  51.399  13.620  1.00  0.10      C
ATOM   4238  O   VAL B  97   -21.654  52.332  12.957  1.00  0.10      O
ATOM   4239  CB  VAL B  97   -20.992  50.434  15.511  1.00  0.10      C
ATOM   4240  CG1 VAL B  97   -20.128  49.263  16.004  1.00  0.10      C
ATOM   4241  CG2 VAL B  97   -20.363  51.816  15.752  1.00  0.10      C
ATOM   4242  H   VAL B  97   -19.530  51.212  13.277  1.00  0.00      H
ATOM   4243  HA  VAL B  97   -21.758  49.333  13.789  1.00  0.00      H
ATOM   4244  HB  VAL B  97   -21.926  50.484  16.060  1.00  0.00      H
ATOM   4245 1HG1 VAL B  97   -20.116  49.203  17.104  1.00  0.00      H
ATOM   4246 2HG1 VAL B  97   -20.458  48.283  15.626  1.00  0.00      H
ATOM   4247 3HG1 VAL B  97   -19.079  49.385  15.681  1.00  0.00      H
ATOM   4248 1HG2 VAL B  97   -20.214  51.976  16.835  1.00  0.00      H
ATOM   4249 2HG2 VAL B  97   -19.366  51.909  15.298  1.00  0.00      H
ATOM   4250 3HG2 VAL B  97   -21.003  52.645  15.413  1.00  0.00      H
ATOM   4251  N   MET B  98   -23.386  51.330  14.004  1.00  0.12      N
ATOM   4252  CA  MET B  98   -24.315  52.369  13.688  1.00  0.12      C
ATOM   4253  C   MET B  98   -24.355  53.226  14.909  1.00  0.12      C
ATOM   4254  O   MET B  98   -24.093  52.749  16.012  1.00  0.12      O
ATOM   4255  CB  MET B  98   -25.737  51.837  13.442  1.00  0.12      C
ATOM   4256  CG  MET B  98   -25.810  50.833  12.286  1.00  0.12      C
ATOM   4257  SD  MET B  98   -25.466  51.524  10.639  1.00  0.12      S
ATOM   4258  CE  MET B  98   -27.170  52.062  10.325  1.00  0.12      C
ATOM   4259  H   MET B  98   -23.734  50.567  14.559  1.00  0.00      H
ATOM   4260  HA  MET B  98   -24.011  52.927  12.813  1.00  0.00      H
ATOM   4261 1HB  MET B  98   -26.406  52.694  13.257  1.00  0.00      H
ATOM   4262 2HB  MET B  98   -26.107  51.339  14.356  1.00  0.00      H
ATOM   4263 1HG  MET B  98   -26.805  50.356  12.241  1.00  0.00      H
ATOM   4264 2HG  MET B  98   -25.093  50.010  12.444  1.00  0.00      H
ATOM   4265 1HE  MET B  98   -27.192  52.555   9.342  1.00  0.00      H
ATOM   4266 2HE  MET B  98   -27.854  51.201  10.300  1.00  0.00      H
ATOM   4267 3HE  MET B  98   -27.497  52.785  11.086  1.00  0.00      H
ATOM   4268  N   GLU B  99   -24.653  54.527  14.755  1.00  0.10      N
ATOM   4269  CA  GLU B  99   -24.662  55.336  15.936  1.00  0.10      C
ATOM   4270  C   GLU B  99   -25.806  54.890  16.779  1.00  0.10      C
ATOM   4271  O   GLU B  99   -26.866  54.525  16.272  1.00  0.10      O
ATOM   4272  CB  GLU B  99   -24.838  56.844  15.682  1.00  0.10      C
ATOM   4273  CG  GLU B  99   -24.757  57.670  16.970  1.00  0.10      C
ATOM   4274  CD  GLU B  99   -24.956  59.140  16.629  1.00  0.10      C
ATOM   4275  OE1 GLU B  99   -24.323  59.619  15.652  1.00  0.10      O
ATOM   4276  OE2 GLU B  99   -25.752  59.803  17.347  1.00  0.10      O1-
ATOM   4277  H   GLU B  99   -24.979  54.937  13.900  1.00  0.00      H
ATOM   4278  HA  GLU B  99   -23.696  55.198  16.459  1.00  0.00      H
ATOM   4279 1HB  GLU B  99   -25.788  57.005  15.155  1.00  0.00      H
ATOM   4280 2HB  GLU B  99   -23.975  57.166  15.117  1.00  0.00      H
ATOM   4281 1HG  GLU B  99   -23.715  57.578  17.265  1.00  0.00      H
ATOM   4282 2HG  GLU B  99   -25.443  57.385  17.776  1.00  0.00      H
ATOM   4283  N   GLY B 100   -25.599  54.893  18.108  1.00  0.20      N
ATOM   4284  CA  GLY B 100   -26.641  54.528  19.014  1.00  0.20      C
ATOM   4285  C   GLY B 100   -26.474  53.096  19.396  1.00  0.20      C
ATOM   4286  O   GLY B 100   -27.034  52.656  20.399  1.00  0.20      O
ATOM   4287  H   GLY B 100   -24.793  55.390  18.492  1.00  0.00      H
ATOM   4288 1HA  GLY B 100   -27.635  54.668  18.562  1.00  0.00      H
ATOM   4289 2HA  GLY B 100   -26.586  55.155  19.915  1.00  0.00      H
ATOM   4290  N   GLN B 101   -25.696  52.315  18.624  1.00  0.50      N
ATOM   4291  CA  GLN B 101   -25.580  50.950  19.038  1.00  0.50      C
ATOM   4292  C   GLN B 101   -24.520  50.860  20.078  1.00  0.50      C
ATOM   4293  O   GLN B 101   -23.614  51.689  20.161  1.00  0.50      O
ATOM   4294  CB  GLN B 101   -25.311  49.923  17.920  1.00  0.50      C
ATOM   4295  CG  GLN B 101   -23.985  50.050  17.175  1.00  0.50      C
ATOM   4296  CD  GLN B 101   -23.925  48.857  16.224  1.00  0.50      C
ATOM   4297  OE1 GLN B 101   -22.862  48.448  15.763  1.00  0.50      O
ATOM   4298  NE2 GLN B 101   -25.114  48.265  15.932  1.00  0.50      N
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ATOM   4299  H   GLN B 101  -25.185  52.658  17.818  1.00  0.00      H
ATOM   4300  HA  GLN B 101  -26.589  50.647  19.360  1.00  0.00      H
ATOM   4301 1HB  GLN B 101  -26.170  50.034  17.236  1.00  0.00      H
ATOM   4302 2HB  GLN B 101  -25.362  48.930  18.402  1.00  0.00      H
ATOM   4303 1HG  GLN B 101  -23.127  49.980  17.861  1.00  0.00      H
ATOM   4304 2HG  GLN B 101  -23.855  50.850  16.515  1.00  0.00      H
ATOM   4305 1HE2 GLN B 101  -25.978  48.551  16.350  1.00  0.00      H
ATOM   4306 2HE2 GLN B 101  -25.070  47.437  15.362  1.00  0.00      H
ATOM   4307  N   PRO B 102  -24.671  49.879  20.918  1.00  0.57      N
ATOM   4308  CA  PRO B 102  -23.702  49.696  21.956  1.00  0.57      C
ATOM   4309  C   PRO B 102  -22.464  49.090  21.396  1.00  0.57      C
ATOM   4310  O   PRO B 102  -22.552  48.324  20.440  1.00  0.57      O
ATOM   4311  CB  PRO B 102  -24.375  48.836  23.023  1.00  0.57      C
ATOM   4312  CG  PRO B 102  -25.870  49.147  22.846  1.00  0.57      C
ATOM   4313  CD  PRO B 102  -26.007  49.500  21.355  1.00  0.57      C
ATOM   4314  HA  PRO B 102  -23.501  50.683  22.400  1.00  0.00      H
ATOM   4315 1HB  PRO B 102  -23.985  49.030  24.034  1.00  0.00      H
ATOM   4316 2HB  PRO B 102  -24.196  47.767  22.814  1.00  0.00      H
ATOM   4317 1HG  PRO B 102  -26.136  50.022  23.462  1.00  0.00      H
ATOM   4318 2HG  PRO B 102  -26.538  48.328  23.154  1.00  0.00      H
ATOM   4319 1HD  PRO B 102  -26.352  48.634  20.768  1.00  0.00      H
ATOM   4320 2HD  PRO B 102  -26.737  50.310  21.257  1.00  0.00      H
ATOM   4321  N   LEU B 103  -21.299  49.426  21.973  1.00  0.26      N
ATOM   4322  CA  LEU B 103  -20.081  48.841  21.517  1.00  0.26      C
ATOM   4323  C   LEU B 103  -19.597  47.982  22.628  1.00  0.26      C
ATOM   4324  O   LEU B 103  -19.568  48.404  23.782  1.00  0.26      O
ATOM   4325  CB  LEU B 103  -18.971  49.863  21.213  1.00  0.26      C
ATOM   4326  CG  LEU B 103  -17.661  49.217  20.720  1.00  0.26      C
ATOM   4327  CD1 LEU B 103  -17.856  48.516  19.366  1.00  0.26      C
ATOM   4328  CD2 LEU B 103  -16.509  50.235  20.709  1.00  0.26      C
ATOM   4329  H   LEU B 103  -21.251  50.111  22.718  1.00  0.00      H
ATOM   4330  HA  LEU B 103  -20.277  48.257  20.607  1.00  0.00      H
ATOM   4331 1HB  LEU B 103  -18.745  50.421  22.129  1.00  0.00      H
ATOM   4332 2HB  LEU B 103  -19.330  50.595  20.468  1.00  0.00      H
ATOM   4333  HG  LEU B 103  -17.359  48.441  21.447  1.00  0.00      H
ATOM   4334 1HD1 LEU B 103  -16.913  48.068  19.010  1.00  0.00      H
ATOM   4335 2HD1 LEU B 103  -18.596  47.704  19.406  1.00  0.00      H
ATOM   4336 3HD1 LEU B 103  -18.182  49.236  18.598  1.00  0.00      H
ATOM   4337 1HD2 LEU B 103  -15.604  49.827  20.237  1.00  0.00      H
ATOM   4338 2HD2 LEU B 103  -16.779  51.152  20.160  1.00  0.00      H
ATOM   4339 3HD2 LEU B 103  -16.227  50.511  21.735  1.00  0.00      H
ATOM   4340  N   PHE B 104  -19.234  46.729  22.312  1.00  0.08      N
ATOM   4341  CA  PHE B 104  -18.730  45.879  23.344  1.00  0.08      C
ATOM   4342  C   PHE B 104  -17.343  45.523  22.936  1.00  0.08      C
ATOM   4343  O   PHE B 104  -17.099  45.161  21.785  1.00  0.08      O
ATOM   4344  CB  PHE B 104  -19.527  44.575  23.513  1.00  0.08      C
ATOM   4345  CG  PHE B 104  -18.986  43.851  24.699  1.00  0.08      C
ATOM   4346  CD1 PHE B 104  -19.376  44.202  25.972  1.00  0.08      C
ATOM   4347  CD2 PHE B 104  -18.097  42.814  24.540  1.00  0.08      C
ATOM   4348  CE1 PHE B 104  -18.881  43.533  27.066  1.00  0.08      C
ATOM   4349  CE2 PHE B 104  -17.597  42.141  25.630  1.00  0.08      C
ATOM   4350  CZ  PHE B 104  -17.990  42.502  26.896  1.00  0.08      C
ATOM   4351  H   PHE B 104  -19.164  46.378  21.373  1.00  0.00      H
ATOM   4352  HA  PHE B 104  -18.730  46.402  24.309  1.00  0.00      H
ATOM   4353 1HB  PHE B 104  -19.479  43.969  22.596  1.00  0.00      H
ATOM   4354 2HB  PHE B 104  -20.591  44.822  23.665  1.00  0.00      H
ATOM   4355  HD1 PHE B 104  -20.096  45.005  26.104  1.00  0.00      H
ATOM   4356  HD2 PHE B 104  -18.020  42.448  23.527  1.00  0.00      H
ATOM   4357  HE1 PHE B 104  -19.224  43.802  28.062  1.00  0.00      H
ATOM   4358  HE2 PHE B 104  -16.936  41.303  25.591  1.00  0.00      H
ATOM   4359  HZ  PHE B 104  -17.766  41.863  27.735  1.00  0.00      H
ATOM   4360  N   LEU B 105  -16.385  45.650  23.872  1.00  0.10      N
ATOM   4361  CA  LEU B 105  -15.028  45.325  23.562  1.00  0.10      C
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ATOM   4362  C   LEU B 105  -14.558  44.396  24.624  1.00  0.10      C
ATOM   4363  O   LEU B 105  -15.108  44.362  25.724  1.00  0.10      O
ATOM   4364  CB  LEU B 105  -14.079  46.536  23.569  1.00  0.10      C
ATOM   4365  CG  LEU B 105  -14.388  47.582  22.481  1.00  0.10      C
ATOM   4366  CD1 LEU B 105  -13.388  48.748  22.534  1.00  0.10      C
ATOM   4367  CD2 LEU B 105  -14.485  46.936  21.090  1.00  0.10      C
ATOM   4368  H   LEU B 105  -16.576  45.939  24.827  1.00  0.00      H
ATOM   4369  HA  LEU B 105  -14.968  44.805  22.597  1.00  0.00      H
ATOM   4370 1HB  LEU B 105  -13.123  46.086  23.234  1.00  0.00      H
ATOM   4371 2HB  LEU B 105  -13.791  46.969  24.481  1.00  0.00      H
ATOM   4372  HG  LEU B 105  -15.382  48.018  22.698  1.00  0.00      H
ATOM   4373 1HD1 LEU B 105  -13.415  49.365  21.621  1.00  0.00      H
ATOM   4374 2HD1 LEU B 105  -13.615  49.414  23.383  1.00  0.00      H
ATOM   4375 3HD1 LEU B 105  -12.365  48.392  22.683  1.00  0.00      H
ATOM   4376 1HD2 LEU B 105  -14.787  47.681  20.341  1.00  0.00      H
ATOM   4377 2HD2 LEU B 105  -13.499  46.550  20.781  1.00  0.00      H
ATOM   4378 3HD2 LEU B 105  -15.189  46.111  20.996  1.00  0.00      H
ATOM   4379  N   ARG B 106  -13.530  43.592  24.307  1.00  0.15      N
ATOM   4380  CA  ARG B 106  -13.059  42.656  25.276  1.00  0.15      C
ATOM   4381  C   ARG B 106  -11.579  42.563  25.130  1.00  0.15      C
ATOM   4382  O   ARG B 106  -11.049  42.581  24.020  1.00  0.15      O
ATOM   4383  CB  ARG B 106  -13.663  41.262  25.034  1.00  0.15      C
ATOM   4384  CG  ARG B 106  -13.241  40.162  26.004  1.00  0.15      C
ATOM   4385  CD  ARG B 106  -14.061  38.888  25.787  1.00  0.15      C
ATOM   4386  NE  ARG B 106  -13.541  37.832  26.698  1.00  0.15      N1+
ATOM   4387  CZ  ARG B 106  -12.993  36.702  26.169  1.00  0.15      C
ATOM   4388  NH1 ARG B 106  -12.935  36.556  24.813  1.00  0.15      N
ATOM   4389  NH2 ARG B 106  -12.531  35.718  26.995  1.00  0.15      N
ATOM   4390  H   ARG B 106  -13.089  43.585  23.398  1.00  0.00      H
ATOM   4391  HA  ARG B 106  -13.331  42.978  26.288  1.00  0.00      H
ATOM   4392 1HB  ARG B 106  -13.453  40.935  24.002  1.00  0.00      H
ATOM   4393 2HB  ARG B 106  -14.740  41.426  25.150  1.00  0.00      H
ATOM   4394 1HG  ARG B 106  -13.146  40.446  27.059  1.00  0.00      H
ATOM   4395 2HG  ARG B 106  -12.200  39.888  25.736  1.00  0.00      H
ATOM   4396 1HD  ARG B 106  -13.950  38.632  24.738  1.00  0.00      H
ATOM   4397 2HD  ARG B 106  -15.136  39.011  25.994  1.00  0.00      H
ATOM   4398  HE  ARG B 106  -13.935  37.715  27.606  1.00  0.00      H
ATOM   4399 1HH1 ARG B 106  -12.968  37.348  24.200  1.00  0.00      H
ATOM   4400 2HH1 ARG B 106  -12.382  35.811  24.442  1.00  0.00      H
ATOM   4401 1HH2 ARG B 106  -12.173  34.859  26.638  1.00  0.00      H
ATOM   4402 2HH2 ARG B 106  -12.478  35.864  27.979  1.00  0.00      H
ATOM   4403  N   CYS B 107  -10.862  42.482  26.266  1.00  0.16      N
ATOM   4404  CA  CYS B 107   -9.446  42.306  26.188  1.00  0.16      C
ATOM   4405  C   CYS B 107   -9.261  40.846  26.416  1.00  0.16      C
ATOM   4406  O   CYS B 107   -9.650  40.320  27.458  1.00  0.16      O
ATOM   4407  CB  CYS B 107   -8.663  43.074  27.268  1.00  0.16      C
ATOM   4408  SG  CYS B 107   -9.006  44.857  27.207  1.00  0.16      S
ATOM   4409  H   CYS B 107  -11.264  42.454  27.191  1.00  0.00      H
ATOM   4410  HA  CYS B 107   -9.062  42.647  25.214  1.00  0.00      H
ATOM   4411 1HB  CYS B 107   -7.591  42.892  27.084  1.00  0.00      H
ATOM   4412 2HB  CYS B 107   -8.887  42.711  28.282  1.00  0.00      H
ATOM   4413  N   HIS B 108   -8.681  40.141  25.429  1.00  0.11      N
ATOM   4414  CA  HIS B 108   -8.593  38.719  25.557  1.00  0.11      C
ATOM   4415  C   HIS B 108   -7.159  38.316  25.545  1.00  0.11      C
ATOM   4416  O   HIS B 108   -6.360  38.829  24.763  1.00  0.11      O
ATOM   4417  CB  HIS B 108   -9.321  37.991  24.412  1.00  0.11      C
ATOM   4418  CG  HIS B 108   -9.314  36.494  24.517  1.00  0.11      C
ATOM   4419  ND1 HIS B 108   -8.352  35.693  23.946  1.00  0.11      N
ATOM   4420  CD2 HIS B 108  -10.189  35.649  25.126  1.00  0.11      C
ATOM   4421  CE1 HIS B 108   -8.693  34.410  24.231  1.00  0.11      C
ATOM   4422  NE2 HIS B 108   -9.799  34.333  24.946  1.00  0.11      N
ATOM   4423  H   HIS B 108   -8.343  40.550  24.563  1.00  0.00      H
ATOM   4424  HA  HIS B 108   -9.067  38.390  26.494  1.00  0.00      H
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ATOM   4425 1HB  HIS B 108   -8.903  38.313  23.443  1.00  0.00     H
ATOM   4426 2HB  HIS B 108  -10.372  38.319  24.407  1.00  0.00     H
ATOM   4427  HD2 HIS B 108  -10.626  35.988  26.029  1.00  0.00     H
ATOM   4428  HE1 HIS B 108   -7.908  33.691  24.152  1.00  0.00     H
ATOM   4429  HE2 HIS B 108   -9.908  33.580  25.609  1.00  0.00     H
ATOM   4430  N   GLY B 109   -6.805  37.367  26.433  1.00  0.09     N
ATOM   4431  CA  GLY B 109   -5.456  36.899  26.515  1.00  0.09     C
ATOM   4432  C   GLY B 109   -5.417  35.556  25.871  1.00  0.09     C
ATOM   4433  O   GLY B 109   -6.414  34.837  25.839  1.00  0.09     O
ATOM   4434  H   GLY B 109   -7.478  36.848  26.971  1.00  0.00     H
ATOM   4435 1HA  GLY B 109   -5.161  36.786  27.574  1.00  0.00     H
ATOM   4436 2HA  GLY B 109   -4.766  37.619  26.058  1.00  0.00     H
ATOM   4437  N   TRP B 110   -4.241  35.184  25.339  1.00  0.32     N
ATOM   4438  CA  TRP B 110   -4.097  33.932  24.665  1.00  0.32     C
ATOM   4439  C   TRP B 110   -4.162  32.847  25.691  1.00  0.32     C
ATOM   4440  O   TRP B 110   -3.707  33.008  26.822  1.00  0.32     O
ATOM   4441  CB  TRP B 110   -2.767  33.840  23.890  1.00  0.32     C
ATOM   4442  CG  TRP B 110   -2.534  32.551  23.142  1.00  0.32     C
ATOM   4443  CD1 TRP B 110   -3.146  32.070  22.021  1.00  0.32     C
ATOM   4444  CD2 TRP B 110   -1.525  31.596  23.495  1.00  0.32     C
ATOM   4445  NE1 TRP B 110   -2.583  30.869  21.657  1.00  0.32     N
ATOM   4446  CE2 TRP B 110   -1.580  30.568  22.553  1.00  0.32     C
ATOM   4447  CE3 TRP B 110   -0.621  31.578  24.517  1.00  0.32     C
ATOM   4448  CZ2 TRP B 110   -0.729  29.502  22.620  1.00  0.32     C
ATOM   4449  CZ3 TRP B 110    0.236  30.504  24.583  1.00  0.32     C
ATOM   4450  CH2 TRP B 110    0.183  29.486  23.653  1.00  0.32     C
ATOM   4451  H   TRP B 110   -3.501  35.873  25.213  1.00  0.00     H
ATOM   4452  HA  TRP B 110   -4.922  33.828  23.933  1.00  0.00     H
ATOM   4453 1HB  TRP B 110   -1.929  34.040  24.572  1.00  0.00     H
ATOM   4454 2HB  TRP B 110   -2.766  34.667  23.167  1.00  0.00     H
ATOM   4455  HD1 TRP B 110   -4.013  32.458  21.524  1.00  0.00     H
ATOM   4456  HE1 TRP B 110   -3.077  30.217  21.085  1.00  0.00     H
ATOM   4457  HE3 TRP B 110   -0.604  32.378  25.237  1.00  0.00     H
ATOM   4458  HZ2 TRP B 110   -0.771  28.699  21.889  1.00  0.00     H
ATOM   4459  HZ3 TRP B 110    1.037  30.521  25.317  1.00  0.00     H
ATOM   4460  HH2 TRP B 110    0.902  28.670  23.710  1.00  0.00     H
ATOM   4461  N   ARG B 111   -4.775  31.709  25.311  1.00  0.53     N
ATOM   4462  CA  ARG B 111   -4.933  30.586  26.189  1.00  0.53     C
ATOM   4463  C   ARG B 111   -5.683  31.000  27.413  1.00  0.53     C
ATOM   4464  O   ARG B 111   -5.653  30.300  28.425  1.00  0.53     O
ATOM   4465  CB  ARG B 111   -3.620  29.933  26.655  1.00  0.53     C
ATOM   4466  CG  ARG B 111   -3.020  28.970  25.633  1.00  0.53     C
ATOM   4467  CD  ARG B 111   -2.053  27.949  26.245  1.00  0.53     C
ATOM   4468  NE  ARG B 111   -0.754  28.629  26.508  1.00  0.53     N1+
ATOM   4469  CZ  ARG B 111    0.186  28.032  27.299  1.00  0.53     C
ATOM   4470  NH1 ARG B 111   -0.095  26.849  27.921  1.00  0.53     N
ATOM   4471  NH2 ARG B 111    1.396  28.633  27.493  1.00  0.53     N
ATOM   4472  H   ARG B 111   -5.186  31.627  24.389  1.00  0.00     H
ATOM   4473  HA  ARG B 111   -5.583  29.848  25.683  1.00  0.00     H
ATOM   4474 1HB  ARG B 111   -3.792  29.342  27.570  1.00  0.00     H
ATOM   4475 2HB  ARG B 111   -2.899  30.707  26.910  1.00  0.00     H
ATOM   4476 1HG  ARG B 111   -2.557  29.498  24.791  1.00  0.00     H
ATOM   4477 2HG  ARG B 111   -3.855  28.394  25.192  1.00  0.00     H
ATOM   4478 1HD  ARG B 111   -1.871  27.088  25.580  1.00  0.00     H
ATOM   4479 2HD  ARG B 111   -2.462  27.574  27.198  1.00  0.00     H
ATOM   4480  HE  ARG B 111   -0.400  29.179  25.751  1.00  0.00     H
ATOM   4481 1HH1 ARG B 111   -0.987  26.418  27.837  1.00  0.00     H
ATOM   4482 2HH1 ARG B 111    0.584  26.383  28.480  1.00  0.00     H
ATOM   4483 1HH2 ARG B 111    2.095  28.219  28.070  1.00  0.00     H
ATOM   4484 2HH2 ARG B 111    1.585  29.543  27.140  1.00  0.00     H
ATOM   4485  N   ASN B 112   -6.402  32.134  27.343  1.00  0.33     N
ATOM   4486  CA  ASN B 112   -7.191  32.586  28.452  1.00  0.33     C
ATOM   4487  C   ASN B 112   -6.360  32.626  29.693  1.00  0.33     C
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ATOM   4488  O   ASN B 112    -6.800  32.181  30.754  1.00  0.33      O
ATOM   4489  CB  ASN B 112    -8.409  31.688  28.734  1.00  0.33      C
ATOM   4490  CG  ASN B 112    -9.405  31.882  27.605  1.00  0.33      C
ATOM   4491  OD1 ASN B 112    -9.721  33.014  27.241  1.00  0.33      O
ATOM   4492  ND2 ASN B 112    -9.908  30.756  27.031  1.00  0.33      N
ATOM   4493  H   ASN B 112    -6.362  32.724  26.520  1.00  0.00      H
ATOM   4494  HA  ASN B 112    -7.515  33.623  28.253  1.00  0.00      H
ATOM   4495 1HB  ASN B 112    -8.936  32.044  29.637  1.00  0.00      H
ATOM   4496 2HB  ASN B 112    -8.129  30.637  28.898  1.00  0.00      H
ATOM   4497 1HD2 ASN B 112    -9.555  29.853  27.290  1.00  0.00      H
ATOM   4498 2HD2 ASN B 112   -10.398  30.864  26.155  1.00  0.00      H
ATOM   4499  N   TRP B 113    -5.133  33.171  29.612  1.00  0.13      N
ATOM   4500  CA  TRP B 113    -4.351  33.236  30.808  1.00  0.13      C
ATOM   4501  C   TRP B 113    -4.945  34.304  31.665  1.00  0.13      C
ATOM   4502  O   TRP B 113    -5.619  35.209  31.177  1.00  0.13      O
ATOM   4503  CB  TRP B 113    -2.864  33.550  30.572  1.00  0.13      C
ATOM   4504  CG  TRP B 113    -2.109  32.435  29.884  1.00  0.13      C
ATOM   4505  CD1 TRP B 113    -1.666  32.352  28.595  1.00  0.13      C
ATOM   4506  CD2 TRP B 113    -1.737  31.203  30.524  1.00  0.13      C
ATOM   4507  NE1 TRP B 113    -1.030  31.149  28.395  1.00  0.13      N
ATOM   4508  CE2 TRP B 113    -1.071  30.431  29.574  1.00  0.13      C
ATOM   4509  CE3 TRP B 113    -1.939  30.749  31.798  1.00  0.13      C
ATOM   4510  CZ2 TRP B 113    -0.593  29.190  29.891  1.00  0.13      C
ATOM   4511  CZ3 TRP B 113    -1.451  29.499  32.110  1.00  0.13      C
ATOM   4512  CH2 TRP B 113    -0.791  28.733  31.174  1.00  0.13      C
ATOM   4513  H   TRP B 113    -4.706  33.392  28.722  1.00  0.00      H
ATOM   4514  HA  TRP B 113    -4.416  32.264  31.331  1.00  0.00      H
ATOM   4515 1HB  TRP B 113    -2.398  33.746  31.554  1.00  0.00      H
ATOM   4516 2HB  TRP B 113    -2.768  34.490  30.007  1.00  0.00      H
ATOM   4517  HD1 TRP B 113    -1.720  33.120  27.844  1.00  0.00      H
ATOM   4518  HE1 TRP B 113    -0.986  30.689  27.511  1.00  0.00      H
ATOM   4519  HE3 TRP B 113    -2.453  31.342  32.547  1.00  0.00      H
ATOM   4520  HZ2 TRP B 113     0.140  28.651  29.363  1.00  0.00      H
ATOM   4521  HZ3 TRP B 113    -1.587  29.113  33.118  1.00  0.00      H
ATOM   4522  HH2 TRP B 113    -0.388  27.770  31.480  1.00  0.00      H
ATOM   4523  N   ASP B 114    -4.712  34.218  32.988  1.00  0.12      N
ATOM   4524  CA  ASP B 114    -5.293  35.164  33.895  1.00  0.12      C
ATOM   4525  C   ASP B 114    -4.813  36.522  33.513  1.00  0.12      C
ATOM   4526  O   ASP B 114    -3.627  36.729  33.263  1.00  0.12      O
ATOM   4527  CB  ASP B 114    -4.874  34.945  35.357  1.00  0.12      C
ATOM   4528  CG  ASP B 114    -5.445  33.616  35.823  1.00  0.12      C
ATOM   4529  OD1 ASP B 114    -6.688  33.434  35.731  1.00  0.12      O
ATOM   4530  OD2 ASP B 114    -4.640  32.765  36.285  1.00  0.12      O1-
ATOM   4531  H   ASP B 114    -4.235  33.453  33.434  1.00  0.00      H
ATOM   4532  HA  ASP B 114    -6.396  35.103  33.822  1.00  0.00      H
ATOM   4533 1HB  ASP B 114    -5.326  35.762  35.943  1.00  0.00      H
ATOM   4534 2HB  ASP B 114    -3.782  34.988  35.482  1.00  0.00      H
ATOM   4535  N   VAL B 115    -5.746  37.488  33.447  1.00  0.21      N
ATOM   4536  CA  VAL B 115    -5.368  38.823  33.098  1.00  0.21      C
ATOM   4537  C   VAL B 115    -5.975  39.733  34.112  1.00  0.21      C
ATOM   4538  O   VAL B 115    -7.072  39.488  34.611  1.00  0.21      O
ATOM   4539  CB  VAL B 115    -5.880  39.263  31.759  1.00  0.21      C
ATOM   4540  CG1 VAL B 115    -5.413  40.708  31.508  1.00  0.21      C
ATOM   4541  CG2 VAL B 115    -5.402  38.262  30.694  1.00  0.21      C
ATOM   4542  H   VAL B 115    -6.699  37.343  33.725  1.00  0.00      H
ATOM   4543  HA  VAL B 115    -4.271  38.918  33.117  1.00  0.00      H
ATOM   4544  HB  VAL B 115    -6.981  39.270  31.744  1.00  0.00      H
ATOM   4545 1HG1 VAL B 115    -5.622  41.014  30.468  1.00  0.00      H
ATOM   4546 2HG1 VAL B 115    -5.940  41.434  32.142  1.00  0.00      H
ATOM   4547 3HG1 VAL B 115    -4.326  40.819  31.656  1.00  0.00      H
ATOM   4548 1HG2 VAL B 115    -6.242  37.632  30.360  1.00  0.00      H
ATOM   4549 2HG2 VAL B 115    -5.022  38.760  29.788  1.00  0.00      H
ATOM   4550 3HG2 VAL B 115    -4.626  37.571  31.037  1.00  0.00      H
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ATOM   4551  N   TYR B 116    -5.249  40.808  34.455  1.00  0.44    N
ATOM   4552  CA  TYR B 116    -5.738  41.756  35.407  1.00  0.44    C
ATOM   4553  C   TYR B 116    -5.192  43.082  34.997  1.00  0.44    C
ATOM   4554  O   TYR B 116    -4.387  43.164  34.070  1.00  0.44    O
ATOM   4555  CB  TYR B 116    -5.271  41.458  36.836  1.00  0.44    C
ATOM   4556  CG  TYR B 116    -3.794  41.347  36.746  1.00  0.44    C
ATOM   4557  CD1 TYR B 116    -2.990  42.447  36.891  1.00  0.44    C
ATOM   4558  CD2 TYR B 116    -3.215  40.131  36.486  1.00  0.44    C
ATOM   4559  CE1 TYR B 116    -1.624  42.331  36.797  1.00  0.44    C
ATOM   4560  CE2 TYR B 116    -1.851  40.007  36.391  1.00  0.44    C
ATOM   4561  CZ  TYR B 116    -1.050  41.109  36.548  1.00  0.44    C
ATOM   4562  OH  TYR B 116     0.352  40.983  36.451  1.00  0.44    O
ATOM   4563  H   TYR B 116    -4.340  40.999  34.057  1.00  0.00    H
ATOM   4564  HA  TYR B 116    -6.838  41.795  35.343  1.00  0.00    H
ATOM   4565 1HB  TYR B 116    -5.732  40.521  37.186  1.00  0.00    H
ATOM   4566 2HB  TYR B 116    -5.607  42.248  37.523  1.00  0.00    H
ATOM   4567  HD1 TYR B 116    -3.439  43.399  37.135  1.00  0.00    H
ATOM   4568  HD2 TYR B 116    -3.838  39.248  36.357  1.00  0.00    H
ATOM   4569  HE1 TYR B 116    -0.986  43.139  37.108  1.00  0.00    H
ATOM   4570  HE2 TYR B 116    -1.421  39.030  36.180  1.00  0.00    H
ATOM   4571  HH  TYR B 116     0.572  40.183  35.940  1.00  0.00    H
ATOM   4572  N   LYS B 117    -5.625  44.154  35.689  1.00  0.45    N
ATOM   4573  CA  LYS B 117    -5.196  45.486  35.366  1.00  0.45    C
ATOM   4574  C   LYS B 117    -5.361  45.714  33.903  1.00  0.45    C
ATOM   4575  O   LYS B 117    -4.381  45.874  33.177  1.00  0.45    O
ATOM   4576  CB  LYS B 117    -3.732  45.803  35.716  1.00  0.45    C
ATOM   4577  CG  LYS B 117    -3.486  46.035  37.205  1.00  0.45    C
ATOM   4578  CD  LYS B 117    -2.021  46.314  37.540  1.00  0.45    C
ATOM   4579  CE  LYS B 117    -1.803  46.773  38.982  1.00  0.45    C
ATOM   4580  NZ  LYS B 117    -1.648  45.598  39.868  1.00  0.45    N1+
ATOM   4581  H   LYS B 117    -6.473  44.044  36.231  1.00  0.00    H
ATOM   4582  HA  LYS B 117    -5.857  46.181  35.904  1.00  0.00    H
ATOM   4583 1HB  LYS B 117    -3.423  46.732  35.202  1.00  0.00    H
ATOM   4584 2HB  LYS B 117    -3.072  45.012  35.321  1.00  0.00    H
ATOM   4585 1HG  LYS B 117    -4.032  45.396  37.906  1.00  0.00    H
ATOM   4586 2HG  LYS B 117    -3.730  47.063  37.280  1.00  0.00    H
ATOM   4587 1HD  LYS B 117    -1.662  47.096  36.845  1.00  0.00    H
ATOM   4588 2HD  LYS B 117    -1.404  45.426  37.399  1.00  0.00    H
ATOM   4589 1HE  LYS B 117    -2.615  47.410  39.361  1.00  0.00    H
ATOM   4590 2HE  LYS B 117    -0.875  47.361  39.082  1.00  0.00    H
ATOM   4591 1HZ  LYS B 117    -1.543  45.856  40.843  1.00  0.00    H
ATOM   4592 2HZ  LYS B 117    -2.458  44.990  39.832  1.00  0.00    H
ATOM   4593 3HZ  LYS B 117    -0.847  45.024  39.642  1.00  0.00    H
ATOM   4594  N   VAL B 118    -6.621  45.732  33.433  1.00  0.21    N
ATOM   4595  CA  VAL B 118    -6.873  45.917  32.037  1.00  0.21    C
ATOM   4596  C   VAL B 118    -7.212  47.354  31.806  1.00  0.21    C
ATOM   4597  O   VAL B 118    -7.958  47.964  32.569  1.00  0.21    O
ATOM   4598  CB  VAL B 118    -8.032  45.104  31.546  1.00  0.21    C
ATOM   4599  CG1 VAL B 118    -8.313  45.486  30.088  1.00  0.21    C
ATOM   4600  CG2 VAL B 118    -7.708  43.615  31.749  1.00  0.21    C
ATOM   4601  H   VAL B 118    -7.436  45.659  34.029  1.00  0.00    H
ATOM   4602  HA  VAL B 118    -5.985  45.589  31.488  1.00  0.00    H
ATOM   4603  HB  VAL B 118    -8.930  45.345  32.142  1.00  0.00    H
ATOM   4604 1HG1 VAL B 118    -9.124  44.854  29.695  1.00  0.00    H
ATOM   4605 2HG1 VAL B 118    -8.627  46.530  29.946  1.00  0.00    H
ATOM   4606 3HG1 VAL B 118    -7.398  45.279  29.526  1.00  0.00    H
ATOM   4607 1HG2 VAL B 118    -8.494  42.960  31.340  1.00  0.00    H
ATOM   4608 2HG2 VAL B 118    -6.771  43.353  31.231  1.00  0.00    H
ATOM   4609 3HG2 VAL B 118    -7.597  43.351  32.813  1.00  0.00    H
ATOM   4610  N   ILE B 119    -6.636  47.944  30.739  1.00  0.09    N
ATOM   4611  CA  ILE B 119    -6.937  49.309  30.434  1.00  0.09    C
ATOM   4612  C   ILE B 119    -7.363  49.370  29.005  1.00  0.09    C
ATOM   4613  O   ILE B 119    -6.814  48.678  28.149  1.00  0.09    O
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ATOM   4614  CB  ILE B 119    -5.765  50.232  30.583  1.00  0.09      C
ATOM   4615  CG1 ILE B 119    -5.244  50.204  32.028  1.00  0.09      C
ATOM   4616  CG2 ILE B 119    -6.202  51.627  30.108  1.00  0.09      C
ATOM   4617  CD1 ILE B 119    -3.887  50.886  32.199  1.00  0.09      C
ATOM   4618  H   ILE B 119    -5.959  47.463  30.152  1.00  0.00      H
ATOM   4619  HA  ILE B 119    -7.753  49.658  31.079  1.00  0.00      H
ATOM   4620  HB  ILE B 119    -4.971  49.878  29.921  1.00  0.00      H
ATOM   4621 1HG1 ILE B 119    -5.125  49.169  32.385  1.00  0.00      H
ATOM   4622 2HG1 ILE B 119    -5.963  50.777  32.619  1.00  0.00      H
ATOM   4623 1HG2 ILE B 119    -5.476  52.407  30.381  1.00  0.00      H
ATOM   4624 2HG2 ILE B 119    -6.341  51.692  29.021  1.00  0.00      H
ATOM   4625 3HG2 ILE B 119    -7.135  51.938  30.599  1.00  0.00      H
ATOM   4626 1HD1 ILE B 119    -3.575  50.833  33.256  1.00  0.00      H
ATOM   4627 2HD1 ILE B 119    -3.103  50.373  31.623  1.00  0.00      H
ATOM   4628 3HD1 ILE B 119    -3.918  51.955  31.943  1.00  0.00      H
ATOM   4629  N   TYR B 120    -8.383  50.200  28.722  1.00  0.09      N
ATOM   4630  CA  TYR B 120    -8.837  50.378  27.377  1.00  0.09      C
ATOM   4631  C   TYR B 120    -8.350  51.707  26.923  1.00  0.09      C
ATOM   4632  O   TYR B 120    -8.418  52.691  27.658  1.00  0.09      O
ATOM   4633  CB  TYR B 120   -10.367  50.372  27.212  1.00  0.09      C
ATOM   4634  CG  TYR B 120   -10.850  48.963  27.189  1.00  0.09      C
ATOM   4635  CD1 TYR B 120   -11.051  48.235  28.339  1.00  0.09      C
ATOM   4636  CD2 TYR B 120   -11.111  48.374  25.973  1.00  0.09      C
ATOM   4637  CE1 TYR B 120   -11.504  46.937  28.266  1.00  0.09      C
ATOM   4638  CE2 TYR B 120   -11.563  47.081  25.893  1.00  0.09      C
ATOM   4639  CZ  TYR B 120   -11.761  46.361  27.043  1.00  0.09      C
ATOM   4640  OH  TYR B 120   -12.226  45.034  26.949  1.00  0.09      O
ATOM   4641  H   TYR B 120    -8.759  50.823  29.425  1.00  0.00      H
ATOM   4642  HA  TYR B 120    -8.416  49.584  26.738  1.00  0.00      H
ATOM   4643 1HB  TYR B 120   -10.609  50.876  26.261  1.00  0.00      H
ATOM   4644 2HB  TYR B 120   -10.841  50.971  28.003  1.00  0.00      H
ATOM   4645  HD1 TYR B 120   -10.803  48.686  29.294  1.00  0.00      H
ATOM   4646  HD2 TYR B 120   -10.958  48.938  25.055  1.00  0.00      H
ATOM   4647  HE1 TYR B 120   -11.634  46.356  29.175  1.00  0.00      H
ATOM   4648  HE2 TYR B 120   -11.814  46.651  24.941  1.00  0.00      H
ATOM   4649  HH  TYR B 120   -11.973  44.595  27.775  1.00  0.00      H
ATOM   4650  N   TYR B 121    -7.816  51.760  25.689  1.00  0.18      N
ATOM   4651  CA  TYR B 121    -7.302  52.999  25.199  1.00  0.18      C
ATOM   4652  C   TYR B 121    -8.013  53.324  23.925  1.00  0.18      C
ATOM   4653  O   TYR B 121    -8.291  52.449  23.108  1.00  0.18      O
ATOM   4654  CB  TYR B 121    -5.803  52.937  24.877  1.00  0.18      C
ATOM   4655  CG  TYR B 121    -5.083  52.647  26.150  1.00  0.18      C
ATOM   4656  CD1 TYR B 121    -4.694  53.668  26.987  1.00  0.18      C
ATOM   4657  CD2 TYR B 121    -4.800  51.349  26.509  1.00  0.18      C
ATOM   4658  CE1 TYR B 121    -4.028  53.397  28.160  1.00  0.18      C
ATOM   4659  CE2 TYR B 121    -4.134  51.074  27.679  1.00  0.18      C
ATOM   4660  CZ  TYR B 121    -3.744  52.098  28.506  1.00  0.18      C
ATOM   4661  OH  TYR B 121    -3.059  51.815  29.707  1.00  0.18      O
ATOM   4662  H   TYR B 121    -7.619  50.943  25.120  1.00  0.00      H
ATOM   4663  HA  TYR B 121    -7.431  53.759  25.960  1.00  0.00      H
ATOM   4664 1HB  TYR B 121    -5.500  53.911  24.460  1.00  0.00      H
ATOM   4665 2HB  TYR B 121    -5.589  52.184  24.103  1.00  0.00      H
ATOM   4666  HD1 TYR B 121    -4.883  54.701  26.707  1.00  0.00      H
ATOM   4667  HD2 TYR B 121    -5.074  50.534  25.848  1.00  0.00      H
ATOM   4668  HE1 TYR B 121    -3.684  54.220  28.783  1.00  0.00      H
ATOM   4669  HE2 TYR B 121    -4.040  50.026  27.774  1.00  0.00      H
ATOM   4670  HH  TYR B 121    -2.245  52.351  29.616  1.00  0.00      H
ATOM   4671  N   LYS B 122    -8.347  54.617  23.757  1.00  0.28      N
ATOM   4672  CA  LYS B 122    -9.000  55.139  22.598  1.00  0.28      C
ATOM   4673  C   LYS B 122    -8.109  56.236  22.126  1.00  0.28      C
ATOM   4674  O   LYS B 122    -7.986  57.264  22.790  1.00  0.28      O
ATOM   4675  CB  LYS B 122   -10.349  55.804  22.933  1.00  0.28      C
ATOM   4676  CG  LYS B 122   -11.176  56.243  21.722  1.00  0.28      C
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ATOM   4677  CD  LYS B 122  -12.535  56.836  22.111  1.00  0.28    C
ATOM   4678  CE  LYS B 122  -13.183  56.151  23.316  1.00  0.28    C
ATOM   4679  NZ  LYS B 122  -14.483  56.791  23.628  1.00  0.28    N1+
ATOM   4680  H   LYS B 122   -8.144  55.299  24.484  1.00  0.00    H
ATOM   4681  HA  LYS B 122   -9.164  54.338  21.865  1.00  0.00    H
ATOM   4682 1HB  LYS B 122  -10.242  56.625  23.659  1.00  0.00    H
ATOM   4683 2HB  LYS B 122  -10.988  55.031  23.342  1.00  0.00    H
ATOM   4684 1HG  LYS B 122  -11.311  55.374  21.057  1.00  0.00    H
ATOM   4685 2HG  LYS B 122  -10.623  56.984  21.114  1.00  0.00    H
ATOM   4686 1HD  LYS B 122  -13.201  56.854  21.232  1.00  0.00    H
ATOM   4687 2HD  LYS B 122  -12.369  57.894  22.385  1.00  0.00    H
ATOM   4688 1HE  LYS B 122  -12.551  56.319  24.190  1.00  0.00    H
ATOM   4689 2HE  LYS B 122  -13.425  55.120  23.185  1.00  0.00    H
ATOM   4690 1HZ  LYS B 122  -14.924  56.393  24.445  1.00  0.00    H
ATOM   4691 2HZ  LYS B 122  -14.393  57.785  23.789  1.00  0.00    H
ATOM   4692 3HZ  LYS B 122  -15.134  56.665  22.860  1.00  0.00    H
ATOM   4693  N   ASP B 123   -7.464  56.040  20.965  1.00  0.20    N
ATOM   4694  CA  ASP B 123   -6.591  57.040  20.428  1.00  0.20    C
ATOM   4695  C   ASP B 123   -5.595  57.437  21.470  1.00  0.20    C
ATOM   4696  O   ASP B 123   -5.193  58.597  21.556  1.00  0.20    O
ATOM   4697  CB  ASP B 123   -7.339  58.273  19.901  1.00  0.20    C
ATOM   4698  CG  ASP B 123   -8.044  57.821  18.631  1.00  0.20    C
ATOM   4699  OD1 ASP B 123   -7.553  56.845  18.001  1.00  0.20    O
ATOM   4700  OD2 ASP B 123   -9.081  58.436  18.274  1.00  0.20    O1-
ATOM   4701  H   ASP B 123   -7.659  55.230  20.379  1.00  0.00    H
ATOM   4702  HA  ASP B 123   -5.967  56.577  19.640  1.00  0.00    H
ATOM   4703 1HB  ASP B 123   -6.613  59.051  19.613  1.00  0.00    H
ATOM   4704 2HB  ASP B 123   -8.032  58.726  20.624  1.00  0.00    H
ATOM   4705  N   GLY B 124   -5.173  56.462  22.296  1.00  0.17    N
ATOM   4706  CA  GLY B 124   -4.147  56.707  23.266  1.00  0.17    C
ATOM   4707  C   GLY B 124   -4.739  57.254  24.523  1.00  0.17    C
ATOM   4708  O   GLY B 124   -4.011  57.600  25.454  1.00  0.17    O
ATOM   4709  H   GLY B 124   -5.500  55.518  22.162  1.00  0.00    H
ATOM   4710 1HA  GLY B 124   -3.397  57.414  22.878  1.00  0.00    H
ATOM   4711 2HA  GLY B 124   -3.641  55.758  23.511  1.00  0.00    H
ATOM   4712  N   GLU B 125   -6.076  57.350  24.601  1.00  0.24    N
ATOM   4713  CA  GLU B 125   -6.638  57.879  25.806  1.00  0.24    C
ATOM   4714  C   GLU B 125   -7.229  56.729  26.552  1.00  0.24    C
ATOM   4715  O   GLU B 125   -7.934  55.904  25.980  1.00  0.24    O
ATOM   4716  CB  GLU B 125   -7.747  58.908  25.550  1.00  0.24    C
ATOM   4717  CG  GLU B 125   -8.099  59.729  26.785  1.00  0.24    C
ATOM   4718  CD  GLU B 125   -9.183  60.720  26.392  1.00  0.24    C
ATOM   4719  OE1 GLU B 125  -10.013  60.366  25.512  1.00  0.24    O
ATOM   4720  OE2 GLU B 125   -9.192  61.843  26.962  1.00  0.24    O1-
ATOM   4721  H   GLU B 125   -6.663  57.298  23.773  1.00  0.00    H
ATOM   4722  HA  GLU B 125   -5.870  58.399  26.400  1.00  0.00    H
ATOM   4723 1HB  GLU B 125   -8.638  58.390  25.156  1.00  0.00    H
ATOM   4724 2HB  GLU B 125   -7.408  59.599  24.755  1.00  0.00    H
ATOM   4725 1HG  GLU B 125   -7.225  60.253  27.203  1.00  0.00    H
ATOM   4726 2HG  GLU B 125   -8.494  59.077  27.582  1.00  0.00    H
ATOM   4727  N   ALA B 126   -6.967  56.629  27.865  1.00  0.26    N
ATOM   4728  CA  ALA B 126   -7.483  55.489  28.563  1.00  0.26    C
ATOM   4729  C   ALA B 126   -8.923  55.737  28.870  1.00  0.26    C
ATOM   4730  O   ALA B 126   -9.257  56.616  29.662  1.00  0.26    O
ATOM   4731  CB  ALA B 126   -6.771  55.212  29.898  1.00  0.26    C
ATOM   4732  H   ALA B 126   -6.347  57.258  28.348  1.00  0.00    H
ATOM   4733  HA  ALA B 126   -7.283  54.612  27.943  1.00  0.00    H
ATOM   4734 1HB  ALA B 126   -7.245  54.340  30.375  1.00  0.00    H
ATOM   4735 2HB  ALA B 126   -5.708  54.984  29.733  1.00  0.00    H
ATOM   4736 3HB  ALA B 126   -6.835  56.063  30.593  1.00  0.00    H
ATOM   4737  N   LEU B 127   -9.819  54.977  28.210  1.00  0.39    N
ATOM   4738  CA  LEU B 127  -11.223  55.120  28.455  1.00  0.39    C
ATOM   4739  C   LEU B 127  -11.504  54.659  29.846  1.00  0.39    C
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ATOM   4740  O   LEU B 127  -12.150  55.361  30.622  1.00  0.39      O
ATOM   4741  CB  LEU B 127  -12.082  54.243  27.532  1.00  0.39      C
ATOM   4742  CG  LEU B 127  -11.973  54.616  26.046  1.00  0.39      C
ATOM   4743  CD1 LEU B 127  -10.541  54.413  25.527  1.00  0.39      C
ATOM   4744  CD2 LEU B 127  -13.021  53.865  25.210  1.00  0.39      C
ATOM   4745  H   LEU B 127   -9.482  54.256  27.585  1.00  0.00      H
ATOM   4746  HA  LEU B 127  -11.515  56.177  28.359  1.00  0.00      H
ATOM   4747 1HB  LEU B 127  -13.130  54.364  27.866  1.00  0.00      H
ATOM   4748 2HB  LEU B 127  -11.833  53.177  27.665  1.00  0.00      H
ATOM   4749  HG  LEU B 127  -12.194  55.696  26.007  1.00  0.00      H
ATOM   4750 1HD1 LEU B 127  -10.536  53.792  24.623  1.00  0.00      H
ATOM   4751 2HD1 LEU B 127  -10.073  55.385  25.396  1.00  0.00      H
ATOM   4752 3HD1 LEU B 127   -9.942  53.772  26.170  1.00  0.00      H
ATOM   4753 1HD2 LEU B 127  -12.582  54.000  24.252  1.00  0.00      H
ATOM   4754 2HD2 LEU B 127  -13.035  52.790  25.442  1.00  0.00      H
ATOM   4755 3HD2 LEU B 127  -14.037  54.274  25.281  1.00  0.00      H
ATOM   4756  N   LYS B 128  -11.008  53.457  30.209  1.00  0.43      N
ATOM   4757  CA  LYS B 128  -11.294  52.985  31.530  1.00  0.43      C
ATOM   4758  C   LYS B 128  -10.216  52.042  31.948  1.00  0.43      C
ATOM   4759  O   LYS B 128   -9.524  51.449  31.122  1.00  0.43      O
ATOM   4760  CB  LYS B 128  -12.614  52.207  31.641  1.00  0.43      C
ATOM   4761  CG  LYS B 128  -12.560  50.838  30.960  1.00  0.43      C
ATOM   4762  CD  LYS B 128  -13.718  49.918  31.350  1.00  0.43      C
ATOM   4763  CE  LYS B 128  -13.540  48.478  30.872  1.00  0.43      C
ATOM   4764  NZ  LYS B 128  -12.447  47.835  31.635  1.00  0.43      N1+
ATOM   4765  H   LYS B 128  -10.327  52.978  29.647  1.00  0.00      H
ATOM   4766  HA  LYS B 128  -11.296  53.843  32.227  1.00  0.00      H
ATOM   4767 1HB  LYS B 128  -13.445  52.810  31.235  1.00  0.00      H
ATOM   4768 2HB  LYS B 128  -12.825  52.073  32.717  1.00  0.00      H
ATOM   4769 1HG  LYS B 128  -11.647  50.306  31.271  1.00  0.00      H
ATOM   4770 2HG  LYS B 128  -12.473  50.978  29.880  1.00  0.00      H
ATOM   4771 1HD  LYS B 128  -14.667  50.313  30.950  1.00  0.00      H
ATOM   4772 2HD  LYS B 128  -13.841  49.922  32.449  1.00  0.00      H
ATOM   4773 1HE  LYS B 128  -13.239  48.443  29.841  1.00  0.00      H
ATOM   4774 2HE  LYS B 128  -14.468  47.942  31.072  1.00  0.00      H
ATOM   4775 1HZ  LYS B 128  -12.368  46.844  31.429  1.00  0.00      H
ATOM   4776 2HZ  LYS B 128  -11.541  48.241  31.441  1.00  0.00      H
ATOM   4777 3HZ  LYS B 128  -12.592  47.889  32.634  1.00  0.00      H
ATOM   4778  N   TYR B 129  -10.043  51.906  33.275  1.00  0.26      N
ATOM   4779  CA  TYR B 129   -9.095  50.989  33.832  1.00  0.26      C
ATOM   4780  C   TYR B 129   -9.784  50.262  34.940  1.00  0.26      C
ATOM   4781  O   TYR B 129  -10.405  50.879  35.803  1.00  0.26      O
ATOM   4782  CB  TYR B 129   -7.861  51.683  34.435  1.00  0.26      C
ATOM   4783  CG  TYR B 129   -7.171  50.706  35.325  1.00  0.26      C
ATOM   4784  CD1 TYR B 129   -6.375  49.701  34.823  1.00  0.26      C
ATOM   4785  CD2 TYR B 129   -7.327  50.815  36.687  1.00  0.26      C
ATOM   4786  CE1 TYR B 129   -5.750  48.816  35.674  1.00  0.26      C
ATOM   4787  CE2 TYR B 129   -6.707  49.936  37.540  1.00  0.26      C
ATOM   4788  CZ  TYR B 129   -5.916  48.935  37.035  1.00  0.26      C
ATOM   4789  OH  TYR B 129   -5.283  48.036  37.916  1.00  0.26      O
ATOM   4790  H   TYR B 129  -10.607  52.393  33.952  1.00  0.00      H
ATOM   4791  HA  TYR B 129   -8.771  50.291  33.049  1.00  0.00      H
ATOM   4792 1HB  TYR B 129   -8.174  52.568  35.013  1.00  0.00      H
ATOM   4793 2HB  TYR B 129   -7.213  52.072  33.637  1.00  0.00      H
ATOM   4794  HD1 TYR B 129   -6.453  49.410  33.799  1.00  0.00      H
ATOM   4795  HD2 TYR B 129   -7.952  51.605  37.097  1.00  0.00      H
ATOM   4796  HE1 TYR B 129   -5.114  48.061  35.238  1.00  0.00      H
ATOM   4797  HE2 TYR B 129   -6.841  50.075  38.607  1.00  0.00      H
ATOM   4798  HH  TYR B 129   -5.832  47.984  38.711  1.00  0.00      H
ATOM   4799  N   TRP B 130   -9.712  48.916  34.931  1.00  0.16      N
ATOM   4800  CA  TRP B 130  -10.311  48.181  36.006  1.00  0.16      C
ATOM   4801  C   TRP B 130   -9.437  46.987  36.219  1.00  0.16      C
ATOM   4802  O   TRP B 130   -8.929  46.405  35.261  1.00  0.16      O
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ATOM   4803  CB  TRP B 130  -11.716  47.655  35.683  1.00  0.16      C
ATOM   4804  CG  TRP B 130  -12.467  47.127  36.882  1.00  0.16      C
ATOM   4805  CD1 TRP B 130  -12.409  45.906  37.486  1.00  0.16      C
ATOM   4806  CD2 TRP B 130  -13.463  47.882  37.588  1.00  0.16      C
ATOM   4807  NE1 TRP B 130  -13.299  45.859  38.532  1.00  0.16      N
ATOM   4808  CE2 TRP B 130  -13.957  47.066  38.603  1.00  0.16      C
ATOM   4809  CE3 TRP B 130  -13.932  49.151  37.402  1.00  0.16      C
ATOM   4810  CZ2 TRP B 130  -14.932  47.506  39.452  1.00  0.16      C
ATOM   4811  CZ3 TRP B 130  -14.913  49.593  38.264  1.00  0.16      C
ATOM   4812  CH2 TRP B 130  -15.404  48.787  39.270  1.00  0.16      C
ATOM   4813  H   TRP B 130   -9.108  48.407  34.292  1.00  0.00      H
ATOM   4814  HA  TRP B 130  -10.329  48.805  36.916  1.00  0.00      H
ATOM   4815 1HB  TRP B 130  -11.622  46.878  34.909  1.00  0.00      H
ATOM   4816 2HB  TRP B 130  -12.306  48.463  35.220  1.00  0.00      H
ATOM   4817  HD1 TRP B 130  -11.644  45.253  37.343  1.00  0.00      H
ATOM   4818  HE1 TRP B 130  -13.577  45.048  39.057  1.00  0.00      H
ATOM   4819  HE3 TRP B 130  -13.550  49.803  36.623  1.00  0.00      H
ATOM   4820  HZ2 TRP B 130  -15.318  46.865  40.242  1.00  0.00      H
ATOM   4821  HZ3 TRP B 130  -15.309  50.600  38.152  1.00  0.00      H
ATOM   4822  HH2 TRP B 130  -16.179  49.170  39.930  1.00  0.00      H
ATOM   4823  N   TYR B 131   -9.204  46.599  37.487  1.00  0.17      N
ATOM   4824  CA  TYR B 131   -8.351  45.465  37.683  1.00  0.17      C
ATOM   4825  C   TYR B 131   -8.991  44.235  37.120  1.00  0.17      C
ATOM   4826  O   TYR B 131   -8.436  43.582  36.238  1.00  0.17      O
ATOM   4827  CB  TYR B 131   -8.087  45.152  39.164  1.00  0.17      C
ATOM   4828  CG  TYR B 131   -7.166  46.173  39.731  1.00  0.17      C
ATOM   4829  CD1 TYR B 131   -7.617  47.428  40.072  1.00  0.17      C
ATOM   4830  CD2 TYR B 131   -5.844  45.857  39.937  1.00  0.17      C
ATOM   4831  CE1 TYR B 131   -6.754  48.358  40.602  1.00  0.17      C
ATOM   4832  CE2 TYR B 131   -4.977  46.782  40.465  1.00  0.17      C
ATOM   4833  CZ  TYR B 131   -5.433  48.034  40.800  1.00  0.17      C
ATOM   4834  OH  TYR B 131   -4.542  48.984  41.345  1.00  0.17      O
ATOM   4835  H   TYR B 131   -9.633  47.043  38.280  1.00  0.00      H
ATOM   4836  HA  TYR B 131   -7.395  45.633  37.177  1.00  0.00      H
ATOM   4837 1HB  TYR B 131   -7.635  44.147  39.216  1.00  0.00      H
ATOM   4838 2HB  TYR B 131   -9.022  45.099  39.746  1.00  0.00      H
ATOM   4839  HD1 TYR B 131   -8.667  47.686  39.973  1.00  0.00      H
ATOM   4840  HD2 TYR B 131   -5.494  44.854  39.704  1.00  0.00      H
ATOM   4841  HE1 TYR B 131   -7.138  49.337  40.884  1.00  0.00      H
ATOM   4842  HE2 TYR B 131   -3.963  46.496  40.710  1.00  0.00      H
ATOM   4843  HH  TYR B 131   -5.050  49.530  41.957  1.00  0.00      H
ATOM   4844  N   GLU B 132  -10.189  43.889  37.630  1.00  0.19      N
ATOM   4845  CA  GLU B 132  -10.842  42.670  37.249  1.00  0.19      C
ATOM   4846  C   GLU B 132  -11.520  42.727  35.909  1.00  0.19      C
ATOM   4847  O   GLU B 132  -11.501  41.741  35.175  1.00  0.19      O
ATOM   4848  CB  GLU B 132  -11.851  42.161  38.295  1.00  0.19      C
ATOM   4849  CG  GLU B 132  -13.030  43.092  38.565  1.00  0.19      C
ATOM   4850  CD  GLU B 132  -13.838  42.479  39.702  1.00  0.19      C
ATOM   4851  OE1 GLU B 132  -14.098  41.248  39.651  1.00  0.19      O
ATOM   4852  OE2 GLU B 132  -14.202  43.236  40.641  1.00  0.19     O1-
ATOM   4853  H   GLU B 132  -10.574  44.356  38.433  1.00  0.00      H
ATOM   4854  HA  GLU B 132  -10.066  41.891  37.149  1.00  0.00      H
ATOM   4855 1HB  GLU B 132  -11.321  41.965  39.245  1.00  0.00      H
ATOM   4856 2HB  GLU B 132  -12.189  41.177  37.919  1.00  0.00      H
ATOM   4857 1HG  GLU B 132  -13.639  43.344  37.692  1.00  0.00      H
ATOM   4858 2HG  GLU B 132  -12.498  43.899  39.059  1.00  0.00      H
ATOM   4859  N   ASN B 133  -12.116  43.878  35.539  1.00  0.18      N
ATOM   4860  CA  ASN B 133  -12.974  43.903  34.382  1.00  0.18      C
ATOM   4861  C   ASN B 133  -12.209  43.857  33.098  1.00  0.18      C
ATOM   4862  O   ASN B 133  -11.487  44.786  32.738  1.00  0.18      O
ATOM   4863  CB  ASN B 133  -13.907  45.129  34.320  1.00  0.18      C
ATOM   4864  CG  ASN B 133  -14.988  44.843  33.284  1.00  0.18      C
ATOM   4865  OD1 ASN B 133  -14.893  43.882  32.522  1.00  0.18      O
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ATOM   4866  ND2 ASN B 133     -16.041  45.704  33.248  1.00  0.18      N
ATOM   4867  H   ASN B 133     -12.148  44.684  36.122  1.00  0.00      H
ATOM   4868  HA  ASN B 133     -13.641  43.023  34.482  1.00  0.00      H
ATOM   4869 1HB  ASN B 133     -13.387  46.056  34.048  1.00  0.00      H
ATOM   4870 2HB  ASN B 133     -14.388  45.278  35.302  1.00  0.00      H
ATOM   4871 1HD2 ASN B 133     -16.148  46.456  33.904  1.00  0.00      H
ATOM   4872 2HD2 ASN B 133     -16.734  45.541  32.536  1.00  0.00      H
ATOM   4873  N   HIS B 134     -12.358  42.718  32.393  1.00  0.16      N
ATOM   4874  CA  HIS B 134     -11.782  42.426  31.111  1.00  0.16      C
ATOM   4875  C   HIS B 134     -12.510  43.153  30.020  1.00  0.16      C
ATOM   4876  O   HIS B 134     -11.908  43.530  29.016  1.00  0.16      O
ATOM   4877  CB  HIS B 134     -11.845  40.927  30.781  1.00  0.16      C
ATOM   4878  CG  HIS B 134     -11.133  40.093  31.803  1.00  0.16      C
ATOM   4879  ND1 HIS B 134      -9.767  39.912  31.837  1.00  0.16      N
ATOM   4880  CD2 HIS B 134     -11.627  39.390  32.858  1.00  0.16      C
ATOM   4881  CE1 HIS B 134      -9.506  39.115  32.903  1.00  0.16      C
ATOM   4882  NE2 HIS B 134     -10.603  38.772  33.554  1.00  0.16      N
ATOM   4883  H   HIS B 134     -12.816  41.946  32.852  1.00  0.00      H
ATOM   4884  HA  HIS B 134     -10.736  42.768  31.094  1.00  0.00      H
ATOM   4885 1HB  HIS B 134     -11.406  40.786  29.778  1.00  0.00      H
ATOM   4886 2HB  HIS B 134     -12.890  40.590  30.715  1.00  0.00      H
ATOM   4887  HD2 HIS B 134     -12.657  39.288  33.175  1.00  0.00      H
ATOM   4888  HE1 HIS B 134      -8.543  38.682  33.088  1.00  0.00      H
ATOM   4889  HE2 HIS B 134     -10.667  38.227  34.389  1.00  0.00      H
ATOM   4890  N   ASN B 135     -13.835  43.359  30.179  1.00  0.14      N
ATOM   4891  CA  ASN B 135     -14.631  43.884  29.100  1.00  0.14      C
ATOM   4892  C   ASN B 135     -14.941  45.332  29.306  1.00  0.14      C
ATOM   4893  O   ASN B 135     -14.867  45.856  30.416  1.00  0.14      O
ATOM   4894  CB  ASN B 135     -15.986  43.176  28.963  1.00  0.14      C
ATOM   4895  CG  ASN B 135     -15.720  41.710  28.665  1.00  0.14      C
ATOM   4896  OD1 ASN B 135     -15.032  41.368  27.704  1.00  0.14      O
ATOM   4897  ND2 ASN B 135     -16.270  40.813  29.528  1.00  0.14      N
ATOM   4898  H   ASN B 135     -14.277  43.286  31.091  1.00  0.00      H
ATOM   4899  HA  ASN B 135     -14.091  43.740  28.156  1.00  0.00      H
ATOM   4900 1HB  ASN B 135     -16.465  43.667  28.112  1.00  0.00      H
ATOM   4901 2HB  ASN B 135     -16.609  43.336  29.857  1.00  0.00      H
ATOM   4902 1HD2 ASN B 135     -16.809  41.103  30.323  1.00  0.00      H
ATOM   4903 2HD2 ASN B 135     -16.088  39.839  29.364  1.00  0.00      H
ATOM   4904  N   ILE B 136     -15.270  46.020  28.190  1.00  0.19      N
ATOM   4905  CA  ILE B 136     -15.665  47.399  28.207  1.00  0.19      C
ATOM   4906  C   ILE B 136     -16.831  47.525  27.279  1.00  0.19      C
ATOM   4907  O   ILE B 136     -16.909  46.824  26.272  1.00  0.19      O
ATOM   4908  CB  ILE B 136     -14.612  48.337  27.694  1.00  0.19      C
ATOM   4909  CG1 ILE B 136     -15.014  49.796  27.966  1.00  0.19      C
ATOM   4910  CG2 ILE B 136     -14.381  48.022  26.207  1.00  0.19      C
ATOM   4911  CD1 ILE B 136     -13.874  50.789  27.751  1.00  0.19      C
ATOM   4912  H   ILE B 136     -15.313  45.559  27.283  1.00  0.00      H
ATOM   4913  HA  ILE B 136     -15.976  47.652  29.234  1.00  0.00      H
ATOM   4914  HB  ILE B 136     -13.653  48.104  28.141  1.00  0.00      H
ATOM   4915 1HG1 ILE B 136     -15.391  49.896  28.996  1.00  0.00      H
ATOM   4916 2HG1 ILE B 136     -15.848  50.096  27.307  1.00  0.00      H
ATOM   4917 1HG2 ILE B 136     -13.544  48.610  25.812  1.00  0.00      H
ATOM   4918 2HG2 ILE B 136     -14.172  46.948  26.193  1.00  0.00      H
ATOM   4919 3HG2 ILE B 136     -15.231  48.283  25.560  1.00  0.00      H
ATOM   4920 1HD1 ILE B 136     -14.060  51.752  28.250  1.00  0.00      H
ATOM   4921 2HD1 ILE B 136     -12.927  50.375  28.101  1.00  0.00      H
ATOM   4922 3HD1 ILE B 136     -13.745  50.990  26.675  1.00  0.00      H
ATOM   4923  N   SER B 137     -17.788  48.414  27.604  1.00  0.24      N
ATOM   4924  CA  SER B 137     -18.920  48.568  26.741  1.00  0.24      C
ATOM   4925  C   SER B 137     -19.203  50.029  26.610  1.00  0.24      C
ATOM   4926  O   SER B 137     -19.102  50.781  27.577  1.00  0.24      O
ATOM   4927  CB  SER B 137     -20.185  47.894  27.299  1.00  0.24      C
ATOM   4928  OG  SER B 137     -21.276  48.071  26.411  1.00  0.24      O
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ATOM   4929  H   SER B 137  -17.726  49.066  28.368  1.00  0.00    H
ATOM   4930  HA  SER B 137  -18.674  48.121  25.782  1.00  0.00    H
ATOM   4931 1HB  SER B 137  -20.436  48.283  28.302  1.00  0.00    H
ATOM   4932 2HB  SER B 137  -20.027  46.813  27.395  1.00  0.00    H
ATOM   4933  HG  SER B 137  -21.483  49.017  26.401  1.00  0.00    H
ATOM   4934  N   ILE B 138  -19.553  50.475  25.389  1.00  0.31    N
ATOM   4935  CA  ILE B 138  -19.872  51.857  25.203  1.00  0.31    C
ATOM   4936  C   ILE B 138  -21.299  51.893  24.779  1.00  0.31    C
ATOM   4937  O   ILE B 138  -21.688  51.253  23.804  1.00  0.31    O
ATOM   4938  CB  ILE B 138  -19.075  52.508  24.114  1.00  0.31    C
ATOM   4939  CG1 ILE B 138  -17.571  52.405  24.424  1.00  0.31    C
ATOM   4940  CG2 ILE B 138  -19.578  53.954  23.962  1.00  0.31    C
ATOM   4941  CD1 ILE B 138  -16.674  52.719  23.229  1.00  0.31    C
ATOM   4942  H   ILE B 138  -19.600  49.853  24.587  1.00  0.00    H
ATOM   4943  HA  ILE B 138  -19.710  52.421  26.135  1.00  0.00    H
ATOM   4944  HB  ILE B 138  -19.268  52.008  23.155  1.00  0.00    H
ATOM   4945 1HG1 ILE B 138  -17.316  51.376  24.735  1.00  0.00    H
ATOM   4946 2HG1 ILE B 138  -17.308  53.049  25.281  1.00  0.00    H
ATOM   4947 1HG2 ILE B 138  -18.854  54.629  23.492  1.00  0.00    H
ATOM   4948 2HG2 ILE B 138  -20.505  54.001  23.368  1.00  0.00    H
ATOM   4949 3HG2 ILE B 138  -19.788  54.411  24.944  1.00  0.00    H
ATOM   4950 1HD1 ILE B 138  -15.696  52.223  23.340  1.00  0.00    H
ATOM   4951 2HD1 ILE B 138  -17.111  52.364  22.288  1.00  0.00    H
ATOM   4952 3HD1 ILE B 138  -16.455  53.793  23.163  1.00  0.00    H
ATOM   4953  N   THR B 139  -22.134  52.652  25.502  1.00  0.40    N
ATOM   4954  CA  THR B 139  -23.515  52.679  25.136  1.00  0.40    C
ATOM   4955  C   THR B 139  -23.749  53.927  24.359  1.00  0.40    C
ATOM   4956  O   THR B 139  -23.036  54.914  24.535  1.00  0.40    O
ATOM   4957  CB  THR B 139  -24.443  52.677  26.311  1.00  0.40    C
ATOM   4958  OG1 THR B 139  -24.163  53.789  27.147  1.00  0.40    O
ATOM   4959  CG2 THR B 139  -24.261  51.362  27.085  1.00  0.40    C
ATOM   4960  H   THR B 139  -21.877  53.234  26.282  1.00  0.00    H
ATOM   4961  HA  THR B 139  -23.767  51.798  24.523  1.00  0.00    H
ATOM   4962  HB  THR B 139  -25.487  52.734  25.945  1.00  0.00    H
ATOM   4963  HG1 THR B 139  -24.403  54.588  26.652  1.00  0.00    H
ATOM   4964 1HG2 THR B 139  -24.978  51.292  27.920  1.00  0.00    H
ATOM   4965 2HG2 THR B 139  -24.420  50.485  26.436  1.00  0.00    H
ATOM   4966 3HG2 THR B 139  -23.251  51.293  27.520  1.00  0.00    H
ATOM   4967  N   ASN B 140  -24.763  53.894  23.470  1.00  0.29    N
ATOM   4968  CA  ASN B 140  -25.086  55.022  22.647  1.00  0.29    C
ATOM   4969  C   ASN B 140  -23.840  55.522  21.994  1.00  0.29    C
ATOM   4970  O   ASN B 140  -23.385  56.631  22.272  1.00  0.29    O
ATOM   4971  CB  ASN B 140  -25.727  56.185  23.423  1.00  0.29    C
ATOM   4972  CG  ASN B 140  -27.131  55.764  23.832  1.00  0.29    C
ATOM   4973  OD1 ASN B 140  -27.317  54.884  24.671  1.00  0.29    O
ATOM   4974  ND2 ASN B 140  -28.154  56.419  23.222  1.00  0.29    N
ATOM   4975  H   ASN B 140  -25.351  53.083  23.363  1.00  0.00    H
ATOM   4976  HA  ASN B 140  -25.796  54.687  21.874  1.00  0.00    H
ATOM   4977 1HB  ASN B 140  -25.766  57.075  22.770  1.00  0.00    H
ATOM   4978 2HB  ASN B 140  -25.173  56.460  24.334  1.00  0.00    H
ATOM   4979 1HD2 ASN B 140  -27.995  57.144  22.547  1.00  0.00    H
ATOM   4980 2HD2 ASN B 140  -29.087  56.156  23.487  1.00  0.00    H
ATOM   4981  N   ALA B 141  -23.250  54.699  21.107  1.00  0.26    N
ATOM   4982  CA  ALA B 141  -22.029  55.068  20.453  1.00  0.26    C
ATOM   4983  C   ALA B 141  -22.269  56.305  19.652  1.00  0.26    C
ATOM   4984  O   ALA B 141  -23.383  56.573  19.206  1.00  0.26    O
ATOM   4985  CB  ALA B 141  -21.490  53.988  19.499  1.00  0.26    C
ATOM   4986  H   ALA B 141  -23.587  53.762  20.926  1.00  0.00    H
ATOM   4987  HA  ALA B 141  -21.258  55.258  21.225  1.00  0.00    H
ATOM   4988 1HB  ALA B 141  -20.549  54.340  19.046  1.00  0.00    H
ATOM   4989 2HB  ALA B 141  -21.267  53.060  20.048  1.00  0.00    H
ATOM   4990 3HB  ALA B 141  -22.201  53.762  18.690  1.00  0.00    H
ATOM   4991  N   THR B 142  -21.198  57.103  19.475  1.00  0.35    N
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ATOM   4992  CA  THR B 142  -21.277  58.331  18.746  1.00  0.35      C
ATOM   4993  C   THR B 142  -20.122  58.368  17.797  1.00  0.35      C
ATOM   4994  O   THR B 142  -19.288  57.465  17.779  1.00  0.35      O
ATOM   4995  CB  THR B 142  -21.175  59.547  19.617  1.00  0.35      C
ATOM   4996  OG1 THR B 142  -21.424  60.721  18.859  1.00  0.35      O
ATOM   4997  CG2 THR B 142  -19.764  59.596  20.230  1.00  0.35      C
ATOM   4998  H   THR B 142  -20.268  56.794  19.709  1.00  0.00      H
ATOM   4999  HA  THR B 142  -22.202  58.374  18.164  1.00  0.00      H
ATOM   5000  HB  THR B 142  -21.924  59.484  20.430  1.00  0.00      H
ATOM   5001  HG1 THR B 142  -20.924  61.441  19.314  1.00  0.00      H
ATOM   5002 1HG2 THR B 142  -19.677  60.411  20.966  1.00  0.00      H
ATOM   5003 2HG2 THR B 142  -19.545  58.677  20.799  1.00  0.00      H
ATOM   5004 3HG2 THR B 142  -19.002  59.711  19.495  1.00  0.00      H
ATOM   5005  N   VAL B 143  -20.067  59.427  16.968  1.00  0.29      N
ATOM   5006  CA  VAL B 143  -19.038  59.595  15.985  1.00  0.29      C
ATOM   5007  C   VAL B 143  -17.723  59.745  16.680  1.00  0.29      C
ATOM   5008  O   VAL B 143  -16.696  59.265  16.203  1.00  0.29      O
ATOM   5009  CB  VAL B 143  -19.256  60.803  15.127  1.00  0.29      C
ATOM   5010  CG1 VAL B 143  -18.096  60.900  14.122  1.00  0.29      C
ATOM   5011  CG2 VAL B 143  -20.644  60.686  14.470  1.00  0.29      C
ATOM   5012  H   VAL B 143  -20.761  60.162  17.079  1.00  0.00      H
ATOM   5013  HA  VAL B 143  -18.850  58.830  15.329  1.00  0.00      H
ATOM   5014  HB  VAL B 143  -19.249  61.727  15.730  1.00  0.00      H
ATOM   5015 1HG1 VAL B 143  -18.282  61.693  13.377  1.00  0.00      H
ATOM   5016 2HG1 VAL B 143  -17.142  61.156  14.609  1.00  0.00      H
ATOM   5017 3HG1 VAL B 143  -17.963  59.961  13.559  1.00  0.00      H
ATOM   5018 1HG2 VAL B 143  -20.742  61.326  13.578  1.00  0.00      H
ATOM   5019 2HG2 VAL B 143  -20.859  59.656  14.167  1.00  0.00      H
ATOM   5020 3HG2 VAL B 143  -21.447  60.987  15.163  1.00  0.00      H
ATOM   5021  N   GLU B 144  -17.728  60.414  17.845  1.00  0.25      N
ATOM   5022  CA  GLU B 144  -16.522  60.650  18.585  1.00  0.25      C
ATOM   5023  C   GLU B 144  -15.953  59.324  18.969  1.00  0.25      C
ATOM   5024  O   GLU B 144  -14.738  59.159  19.072  1.00  0.25      O
ATOM   5025  CB  GLU B 144  -16.760  61.452  19.874  1.00  0.25      C
ATOM   5026  CG  GLU B 144  -17.200  62.889  19.597  1.00  0.25      C
ATOM   5027  CD  GLU B 144  -18.626  62.836  19.072  1.00  0.25      C
ATOM   5028  OE1 GLU B 144  -19.542  62.548  19.886  1.00  0.25      O
ATOM   5029  OE2 GLU B 144  -18.817  63.075  17.849  1.00  0.25      O1-
ATOM   5030  H   GLU B 144  -18.487  61.065  18.039  1.00  0.00      H
ATOM   5031  HA  GLU B 144  -15.773  61.169  17.962  1.00  0.00      H
ATOM   5032 1HB  GLU B 144  -15.791  61.461  20.406  1.00  0.00      H
ATOM   5033 2HB  GLU B 144  -17.460  60.941  20.552  1.00  0.00      H
ATOM   5034 1HG  GLU B 144  -16.520  63.373  18.878  1.00  0.00      H
ATOM   5035 2HG  GLU B 144  -17.181  63.464  20.537  1.00  0.00      H
ATOM   5036  N   ASP B 145  -16.834  58.331  19.171  1.00  0.22      N
ATOM   5037  CA  ASP B 145  -16.438  57.030  19.619  1.00  0.22      C
ATOM   5038  C   ASP B 145  -15.451  56.448  18.657  1.00  0.22      C
ATOM   5039  O   ASP B 145  -14.495  55.797  19.079  1.00  0.22      O
ATOM   5040  CB  ASP B 145  -17.632  56.064  19.718  1.00  0.22      C
ATOM   5041  CG  ASP B 145  -17.196  54.793  20.435  1.00  0.22      C
ATOM   5042  OD1 ASP B 145  -16.201  54.160  19.992  1.00  0.22      O
ATOM   5043  OD2 ASP B 145  -17.856  54.442  21.448  1.00  0.22      O1-
ATOM   5044  H   ASP B 145  -17.800  58.450  18.901  1.00  0.00      H
ATOM   5045  HA  ASP B 145  -15.940  57.121  20.598  1.00  0.00      H
ATOM   5046 1HB  ASP B 145  -17.956  55.760  18.717  1.00  0.00      H
ATOM   5047 2HB  ASP B 145  -18.467  56.523  20.264  1.00  0.00      H
ATOM   5048  N   SER B 146  -15.638  56.670  17.341  1.00  0.20      N
ATOM   5049  CA  SER B 146  -14.748  56.087  16.374  1.00  0.20      C
ATOM   5050  C   SER B 146  -13.344  56.482  16.696  1.00  0.20      C
ATOM   5051  O   SER B 146  -13.085  57.579  17.191  1.00  0.20      O
ATOM   5052  CB  SER B 146  -15.037  56.523  14.926  1.00  0.20      C
ATOM   5053  OG  SER B 146  -14.798  57.915  14.780  1.00  0.20      O
ATOM   5054  H   SER B 146  -16.339  57.340  17.064  1.00  0.00      H
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ATOM   5055  HA  SER B 146  -14.867  54.991  16.450  1.00  0.00    H
ATOM   5056 1HB  SER B 146  -16.065  56.298  14.651  1.00  0.00    H
ATOM   5057 2HB  SER B 146  -14.320  56.051  14.248  1.00  0.00    H
ATOM   5058  HG  SER B 146  -15.343  58.395  15.432  1.00  0.00    H
ATOM   5059  N   GLY B 147  -12.394  55.561  16.442  1.00  0.21    N
ATOM   5060  CA  GLY B 147  -11.020  55.841  16.735  1.00  0.21    C
ATOM   5061  C   GLY B 147  -10.301  54.535  16.762  1.00  0.21    C
ATOM   5062  O   GLY B 147  -10.814  53.517  16.299  1.00  0.21    O
ATOM   5063  H   GLY B 147  -12.613  54.654  16.041  1.00  0.00    H
ATOM   5064 1HA  GLY B 147  -10.942  56.340  17.716  1.00  0.00    H
ATOM   5065 2HA  GLY B 147  -10.567  56.502  15.975  1.00  0.00    H
ATOM   5066  N   THR B 148   -9.071  54.538  17.306  1.00  0.17    N
ATOM   5067  CA  THR B 148   -8.323  53.322  17.360  1.00  0.17    C
ATOM   5068  C   THR B 148   -8.332  52.870  18.779  1.00  0.17    C
ATOM   5069  O   THR B 148   -8.106  53.661  19.694  1.00  0.17    O
ATOM   5070  CB  THR B 148   -6.895  53.491  16.948  1.00  0.17    C
ATOM   5071  OG1 THR B 148   -6.829  53.999  15.623  1.00  0.17    O
ATOM   5072  CG2 THR B 148   -6.209  52.120  17.013  1.00  0.17    C
ATOM   5073  H   THR B 148   -8.624  55.388  17.678  1.00  0.00    H
ATOM   5074  HA  THR B 148   -8.767  52.588  16.674  1.00  0.00    H
ATOM   5075  HB  THR B 148   -6.364  54.181  17.632  1.00  0.00    H
ATOM   5076  HG1 THR B 148   -7.244  54.874  15.660  1.00  0.00    H
ATOM   5077 1HG2 THR B 148   -5.147  52.241  16.751  1.00  0.00    H
ATOM   5078 2HG2 THR B 148   -6.308  51.719  18.025  1.00  0.00    H
ATOM   5079 3HG2 THR B 148   -6.655  51.422  16.289  1.00  0.00    H
ATOM   5080  N   TYR B 149   -8.616  51.574  19.001  1.00  0.12    N
ATOM   5081  CA  TYR B 149   -8.660  51.076  20.343  1.00  0.12    C
ATOM   5082  C   TYR B 149   -7.643  49.994  20.494  1.00  0.12    C
ATOM   5083  O   TYR B 149   -7.419  49.197  19.586  1.00  0.12    O
ATOM   5084  CB  TYR B 149   -9.999  50.428  20.732  1.00  0.12    C
ATOM   5085  CG  TYR B 149  -11.045  51.479  20.866  1.00  0.12    C
ATOM   5086  CD1 TYR B 149  -11.674  51.998  19.759  1.00  0.12    C
ATOM   5087  CD2 TYR B 149  -11.402  51.932  22.113  1.00  0.12    C
ATOM   5088  CE1 TYR B 149  -12.644  52.962  19.899  1.00  0.12    C
ATOM   5089  CE2 TYR B 149  -12.372  52.895  22.260  1.00  0.12    C
ATOM   5090  CZ  TYR B 149  -12.993  53.412  21.150  1.00  0.12    C
ATOM   5091  OH  TYR B 149  -13.989  54.400  21.293  1.00  0.12    O
ATOM   5092  H   TYR B 149   -8.796  50.923  18.245  1.00  0.00    H
ATOM   5093  HA  TYR B 149   -8.441  51.899  21.010  1.00  0.00    H
ATOM   5094 1HB  TYR B 149   -9.845  49.950  21.708  1.00  0.00    H
ATOM   5095 2HB  TYR B 149  -10.289  49.654  20.005  1.00  0.00    H
ATOM   5096  HD1 TYR B 149  -11.402  51.655  18.764  1.00  0.00    H
ATOM   5097  HD2 TYR B 149  -10.961  51.469  22.992  1.00  0.00    H
ATOM   5098  HE1 TYR B 149  -13.123  53.373  19.011  1.00  0.00    H
ATOM   5099  HE2 TYR B 149  -13.003  52.773  23.120  1.00  0.00    H
ATOM   5100  HH  TYR B 149  -14.641  54.316  20.555  1.00  0.00    H
ATOM   5101  N   TYR B 150   -6.980  49.968  21.666  1.00  0.12    N
ATOM   5102  CA  TYR B 150   -6.072  48.906  21.976  1.00  0.12    C
ATOM   5103  C   TYR B 150   -6.183  48.678  23.446  1.00  0.12    C
ATOM   5104  O   TYR B 150   -6.750  49.497  24.169  1.00  0.12    O
ATOM   5105  CB  TYR B 150   -4.574  49.181  21.581  1.00  0.12    C
ATOM   5106  CG  TYR B 150   -4.087  50.632  21.583  1.00  0.12    C
ATOM   5107  CD1 TYR B 150   -2.898  50.942  22.234  1.00  0.12    C
ATOM   5108  CD2 TYR B 150   -4.656  51.650  20.809  1.00  0.12    C
ATOM   5109  CE1 TYR B 150   -2.277  52.174  22.099  1.00  0.12    C
ATOM   5110  CE2 TYR B 150   -4.087  52.909  20.709  1.00  0.12    C
ATOM   5111  CZ  TYR B 150   -2.865  53.188  21.343  1.00  0.12    C
ATOM   5112  OH  TYR B 150   -2.303  54.417  21.177  1.00  0.12    O
ATOM   5113  H   TYR B 150   -7.179  50.628  22.407  1.00  0.00    H
ATOM   5114  HA  TYR B 150   -6.417  47.983  21.478  1.00  0.00    H
ATOM   5115 1HB  TYR B 150   -4.376  48.771  20.583  1.00  0.00    H
ATOM   5116 2HB  TYR B 150   -3.930  48.575  22.238  1.00  0.00    H
ATOM   5117  HD1 TYR B 150   -2.411  50.183  22.843  1.00  0.00    H
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ATOM   5118  HD2 TYR B 150      -5.552  51.456  20.231  1.00  0.00      H
ATOM   5119  HE1 TYR B 150      -1.312  52.306  22.582  1.00  0.00      H
ATOM   5120  HE2 TYR B 150      -4.566  53.669  20.094  1.00  0.00      H
ATOM   5121  HH  TYR B 150      -1.388  54.382  21.485  1.00  0.00      H
ATOM   5122  N   CYS B 151      -5.668  47.538  23.936  1.00  0.27      N
ATOM   5123  CA  CYS B 151      -5.851  47.259  25.325  1.00  0.27      C
ATOM   5124  C   CYS B 151      -4.536  46.869  25.912  1.00  0.27      C
ATOM   5125  O   CYS B 151      -3.648  46.384  25.215  1.00  0.27      O
ATOM   5126  CB  CYS B 151      -6.843  46.104  25.548  1.00  0.27      C
ATOM   5127  SG  CYS B 151      -7.171  45.727  27.291  1.00  0.27      S
ATOM   5128  H   CYS B 151      -5.059  46.930  23.420  1.00  0.00      H
ATOM   5129  HA  CYS B 151      -6.218  48.148  25.849  1.00  0.00      H
ATOM   5130 1HB  CYS B 151      -6.499  45.191  25.037  1.00  0.00      H
ATOM   5131 2HB  CYS B 151      -7.796  46.404  25.083  1.00  0.00      H
ATOM   5132  N   THR B 152      -4.373  47.128  27.222  1.00  0.37      N
ATOM   5133  CA  THR B 152      -3.202  46.713  27.934  1.00  0.37      C
ATOM   5134  C   THR B 152      -3.659  45.920  29.104  1.00  0.37      C
ATOM   5135  O   THR B 152      -4.747  46.133  29.635  1.00  0.37      O
ATOM   5136  CB  THR B 152      -2.327  47.824  28.434  1.00  0.37      C
ATOM   5137  OG1 THR B 152      -3.105  48.812  29.091  1.00  0.37      O
ATOM   5138  CG2 THR B 152      -1.524  48.412  27.271  1.00  0.37      C
ATOM   5139  H   THR B 152      -5.082  47.588  27.778  1.00  0.00      H
ATOM   5140  HA  THR B 152      -2.623  46.045  27.283  1.00  0.00      H
ATOM   5141  HB  THR B 152      -1.602  47.395  29.156  1.00  0.00      H
ATOM   5142  HG1 THR B 152      -2.553  49.611  29.152  1.00  0.00      H
ATOM   5143 1HG2 THR B 152      -0.892  49.248  27.611  1.00  0.00      H
ATOM   5144 2HG2 THR B 152      -0.852  47.655  26.850  1.00  0.00      H
ATOM   5145 3HG2 THR B 152      -2.185  48.790  26.476  1.00  0.00      H
ATOM   5146  N   GLY B 153      -2.829  44.947  29.520  1.00  0.21      N
ATOM   5147  CA  GLY B 153      -3.195  44.136  30.637  1.00  0.21      C
ATOM   5148  C   GLY B 153      -1.974  43.392  31.040  1.00  0.21      C
ATOM   5149  O   GLY B 153      -1.021  43.278  30.271  1.00  0.21      O
ATOM   5150  H   GLY B 153      -1.886  44.837  29.146  1.00  0.00      H
ATOM   5151 1HA  GLY B 153      -3.993  43.422  30.370  1.00  0.00      H
ATOM   5152 2HA  GLY B 153      -3.543  44.766  31.450  1.00  0.00      H
ATOM   5153  N   LYS B 154      -1.972  42.860  32.275  1.00  0.12      N
ATOM   5154  CA  LYS B 154      -0.807  42.155  32.702  1.00  0.12      C
ATOM   5155  C   LYS B 154      -1.155  40.715  32.821  1.00  0.12      C
ATOM   5156  O   LYS B 154      -2.059  40.336  33.565  1.00  0.12      O
ATOM   5157  CB  LYS B 154      -0.290  42.601  34.077  1.00  0.12      C
ATOM   5158  CG  LYS B 154       0.176  44.056  34.106  1.00  0.12      C
ATOM   5159  CD  LYS B 154       0.395  44.591  35.521  1.00  0.12      C
ATOM   5160  CE  LYS B 154       0.863  46.048  35.557  1.00  0.12      C
ATOM   5161  NZ  LYS B 154       1.046  46.488  36.959  1.00  0.12     N1+
ATOM   5162  H   LYS B 154      -2.733  42.972  32.935  1.00  0.00      H
ATOM   5163  HA  LYS B 154      -0.031  42.235  31.958  1.00  0.00      H
ATOM   5164 1HB  LYS B 154       0.526  41.927  34.362  1.00  0.00      H
ATOM   5165 2HB  LYS B 154      -1.176  42.511  34.684  1.00  0.00      H
ATOM   5166 1HG  LYS B 154      -0.548  44.710  33.586  1.00  0.00      H
ATOM   5167 2HG  LYS B 154       1.115  44.114  33.543  1.00  0.00      H
ATOM   5168 1HD  LYS B 154       1.072  43.927  36.083  1.00  0.00      H
ATOM   5169 2HD  LYS B 154      -0.602  44.565  35.950  1.00  0.00      H
ATOM   5170 1HE  LYS B 154       0.129  46.719  35.080  1.00  0.00      H
ATOM   5171 2HE  LYS B 154       1.829  46.180  35.041  1.00  0.00      H
ATOM   5172 1HZ  LYS B 154       1.435  47.422  36.999  1.00  0.00      H
ATOM   5173 2HZ  LYS B 154       0.179  46.508  37.465  1.00  0.00      H
ATOM   5174 3HZ  LYS B 154       1.701  45.889  37.446  1.00  0.00      H
ATOM   5175  N   VAL B 155      -0.441  39.872  32.056  1.00  0.20      N
ATOM   5176  CA  VAL B 155      -0.620  38.462  32.171  1.00  0.20      C
ATOM   5177  C   VAL B 155       0.646  37.984  32.782  1.00  0.20      C
ATOM   5178  O   VAL B 155       1.735  38.387  32.374  1.00  0.20      O
ATOM   5179  CB  VAL B 155      -0.804  37.761  30.854  1.00  0.20      C
ATOM   5180  CG1 VAL B 155      -2.117  38.254  30.221  1.00  0.20      C
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ATOM   5181  CG2 VAL B 155     0.439  38.013  29.983  1.00  0.20      C
ATOM   5182  H   VAL B 155     0.465  40.165  31.706  1.00  0.00      H
ATOM   5183  HA  VAL B 155    -1.474  38.239  32.829  1.00  0.00      H
ATOM   5184  HB  VAL B 155    -0.898  36.681  31.070  1.00  0.00      H
ATOM   5185 1HG1 VAL B 155    -2.526  37.547  29.484  1.00  0.00      H
ATOM   5186 2HG1 VAL B 155    -2.861  38.423  31.007  1.00  0.00      H
ATOM   5187 3HG1 VAL B 155    -1.975  39.222  29.711  1.00  0.00      H
ATOM   5188 1HG2 VAL B 155     0.249  37.694  28.942  1.00  0.00      H
ATOM   5189 2HG2 VAL B 155     0.649  39.081  29.939  1.00  0.00      H
ATOM   5190 3HG2 VAL B 155     1.343  37.475  30.285  1.00  0.00      H
ATOM   5191  N   TRP B 156     0.539  37.143  33.820  1.00  0.33      N
ATOM   5192  CA  TRP B 156     1.740  36.713  34.455  1.00  0.33      C
ATOM   5193  C   TRP B 156     2.323  37.955  35.034  1.00  0.33      C
ATOM   5194  O   TRP B 156     1.605  38.904  35.350  1.00  0.33      O
ATOM   5195  CB  TRP B 156     2.765  36.100  33.483  1.00  0.33      C
ATOM   5196  CG  TRP B 156     2.277  34.858  32.771  1.00  0.33      C
ATOM   5197  CD1 TRP B 156     1.694  34.753  31.543  1.00  0.33      C
ATOM   5198  CD2 TRP B 156     2.345  33.525  33.303  1.00  0.33      C
ATOM   5199  NE1 TRP B 156     1.392  33.439  31.275  1.00  0.33      N
ATOM   5200  CE2 TRP B 156     1.787  32.671  32.350  1.00  0.33      C
ATOM   5201  CE3 TRP B 156     2.832  33.050  34.487  1.00  0.33      C
ATOM   5202  CZ2 TRP B 156     1.705  31.325  32.569  1.00  0.33      C
ATOM   5203  CZ3 TRP B 156     2.748  31.691  34.703  1.00  0.33      C
ATOM   5204  CH2 TRP B 156     2.195  30.845  33.763  1.00  0.33      C
ATOM   5205  H   TRP B 156    -0.349  36.804  34.155  1.00  0.00      H
ATOM   5206  HA  TRP B 156     1.505  36.007  35.270  1.00  0.00      H
ATOM   5207 1HB  TRP B 156     3.617  35.752  34.092  1.00  0.00      H
ATOM   5208 2HB  TRP B 156     3.230  36.786  32.765  1.00  0.00      H
ATOM   5209  HD1 TRP B 156     1.470  35.527  30.827  1.00  0.00      H
ATOM   5210  HE1 TRP B 156     0.852  33.107  30.508  1.00  0.00      H
ATOM   5211  HE3 TRP B 156     3.265  33.702  35.237  1.00  0.00      H
ATOM   5212  HZ2 TRP B 156     1.272  30.662  31.826  1.00  0.00      H
ATOM   5213  HZ3 TRP B 156     3.122  31.273  35.635  1.00  0.00      H
ATOM   5214  HH2 TRP B 156     2.143  29.779  33.972  1.00  0.00      H
ATOM   5215  N   GLN B 157     3.656  37.967  35.190  1.00  0.49      N
ATOM   5216  CA  GLN B 157     4.338  39.097  35.739  1.00  0.49      C
ATOM   5217  C   GLN B 157     4.276  40.236  34.773  1.00  0.49      C
ATOM   5218  O   GLN B 157     4.048  41.381  35.160  1.00  0.49      O
ATOM   5219  CB  GLN B 157     5.830  38.816  35.969  1.00  0.49      C
ATOM   5220  CG  GLN B 157     6.082  37.569  36.814  1.00  0.49      C
ATOM   5221  CD  GLN B 157     5.294  37.721  38.101  1.00  0.49      C
ATOM   5222  OE1 GLN B 157     5.354  38.759  38.756  1.00  0.49      O
ATOM   5223  NE2 GLN B 157     4.525  36.663  38.466  1.00  0.49      N
ATOM   5224  H   GLN B 157     4.224  37.178  34.941  1.00  0.00      H
ATOM   5225  HA  GLN B 157     3.849  39.413  36.673  1.00  0.00      H
ATOM   5226 1HB  GLN B 157     6.280  39.706  36.442  1.00  0.00      H
ATOM   5227 2HB  GLN B 157     6.355  38.651  35.031  1.00  0.00      H
ATOM   5228 1HG  GLN B 157     7.147  37.485  37.094  1.00  0.00      H
ATOM   5229 2HG  GLN B 157     5.821  36.652  36.260  1.00  0.00      H
ATOM   5230 1HE2 GLN B 157     4.495  35.810  37.942  1.00  0.00      H
ATOM   5231 2HE2 GLN B 157     3.997  36.763  39.316  1.00  0.00      H
ATOM   5232  N   LEU B 158     4.459  39.934  33.473  1.00  0.41      N
ATOM   5233  CA  LEU B 158     4.607  40.961  32.483  1.00  0.41      C
ATOM   5234  C   LEU B 158     3.306  41.597  32.127  1.00  0.41      C
ATOM   5235  O   LEU B 158     2.227  41.063  32.381  1.00  0.41      O
ATOM   5236  CB  LEU B 158     5.252  40.467  31.176  1.00  0.41      C
ATOM   5237  CG  LEU B 158     6.699  39.977  31.364  1.00  0.41      C
ATOM   5238  CD1 LEU B 158     7.628  41.124  31.796  1.00  0.41      C
ATOM   5239  CD2 LEU B 158     6.758  38.765  32.310  1.00  0.41      C
ATOM   5240  H   LEU B 158     4.371  38.990  33.144  1.00  0.00      H
ATOM   5241  HA  LEU B 158     5.247  41.746  32.926  1.00  0.00      H
ATOM   5242 1HB  LEU B 158     5.231  41.276  30.425  1.00  0.00      H
ATOM   5243 2HB  LEU B 158     4.656  39.640  30.773  1.00  0.00      H
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ATOM   5244  HG  LEU B 158      7.047  39.639  30.367  1.00  0.00      H
ATOM   5245 1HD1 LEU B 158      8.682  40.800  31.788  1.00  0.00      H
ATOM   5246 2HD1 LEU B 158      7.548  41.983  31.109  1.00  0.00      H
ATOM   5247 3HD1 LEU B 158      7.408  41.481  32.814  1.00  0.00      H
ATOM   5248 1HD2 LEU B 158      7.652  38.158  32.086  1.00  0.00      H
ATOM   5249 2HD2 LEU B 158      6.896  39.116  33.331  1.00  0.00      H
ATOM   5250 3HD2 LEU B 158      5.894  38.090  32.222  1.00  0.00      H
ATOM   5251  N   ASP B 159      3.419  42.804  31.533  1.00  0.19      N
ATOM   5252  CA  ASP B 159      2.310  43.578  31.058  1.00  0.19      C
ATOM   5253  C   ASP B 159      2.414  43.543  29.566  1.00  0.19      C
ATOM   5254  O   ASP B 159      3.504  43.668  29.009  1.00  0.19      O
ATOM   5255  CB  ASP B 159      2.381  45.057  31.503  1.00  0.19      C
ATOM   5256  CG  ASP B 159      1.124  45.839  31.117  1.00  0.19      C
ATOM   5257  OD1 ASP B 159      0.378  45.398  30.205  1.00  0.19      O
ATOM   5258  OD2 ASP B 159      0.904  46.910  31.744  1.00  0.19      O1-
ATOM   5259  H   ASP B 159      4.304  43.201  31.275  1.00  0.00      H
ATOM   5260  HA  ASP B 159      1.394  43.142  31.412  1.00  0.00      H
ATOM   5261 1HB  ASP B 159      3.242  45.547  31.017  1.00  0.00      H
ATOM   5262 2HB  ASP B 159      2.576  45.164  32.581  1.00  0.00      H
ATOM   5263  N   TYR B 160      1.279  43.335  28.874  1.00  0.11      N
ATOM   5264  CA  TYR B 160      1.321  43.282  27.443  1.00  0.11      C
ATOM   5265  C   TYR B 160      0.381  44.304  26.901  1.00  0.11      C
ATOM   5266  O   TYR B 160     -0.535  44.755  27.589  1.00  0.11      O
ATOM   5267  CB  TYR B 160      0.884  41.929  26.857  1.00  0.11      C
ATOM   5268  CG  TYR B 160      1.939  40.924  27.171  1.00  0.11      C
ATOM   5269  CD1 TYR B 160      2.067  40.404  28.439  1.00  0.11      C
ATOM   5270  CD2 TYR B 160      2.794  40.488  26.185  1.00  0.11      C
ATOM   5271  CE1 TYR B 160      3.042  39.476  28.720  1.00  0.11      C
ATOM   5272  CE2 TYR B 160      3.771  39.560  26.459  1.00  0.11      C
ATOM   5273  CZ  TYR B 160      3.895  39.052  27.730  1.00  0.11      C
ATOM   5274  OH  TYR B 160      4.895  38.099  28.019  1.00  0.11      O
ATOM   5275  H   TYR B 160      0.420  43.679  29.317  1.00  0.00      H
ATOM   5276  HA  TYR B 160      2.324  43.539  27.087  1.00  0.00      H
ATOM   5277 1HB  TYR B 160      0.755  42.037  25.769  1.00  0.00      H
ATOM   5278 2HB  TYR B 160     -0.098  41.635  27.262  1.00  0.00      H
ATOM   5279  HD1 TYR B 160      1.419  40.777  29.225  1.00  0.00      H
ATOM   5280  HD2 TYR B 160      2.708  40.890  25.178  1.00  0.00      H
ATOM   5281  HE1 TYR B 160      3.087  39.038  29.711  1.00  0.00      H
ATOM   5282  HE2 TYR B 160      4.440  39.242  25.662  1.00  0.00      H
ATOM   5283  HH  TYR B 160      5.695  38.392  27.561  1.00  0.00      H
ATOM   5284  N   GLU B 161      0.622  44.722  25.643  1.00  0.12      N
ATOM   5285  CA  GLU B 161     -0.262  45.647  25.000  1.00  0.12      C
ATOM   5286  C   GLU B 161     -0.753  44.973  23.762  1.00  0.12      C
ATOM   5287  O   GLU B 161     -0.033  44.197  23.135  1.00  0.12      O
ATOM   5288  CB  GLU B 161      0.273  47.006  24.485  1.00  0.12      C
ATOM   5289  CG  GLU B 161     -0.616  48.163  23.930  1.00  0.12      C
ATOM   5290  CD  GLU B 161      0.100  48.894  22.732  1.00  0.12      C
ATOM   5291  OE1 GLU B 161      0.523  48.163  21.832  1.00  0.12      O
ATOM   5292  OE2 GLU B 161      0.153  50.124  22.811  1.00  0.12      O1-
ATOM   5293  H   GLU B 161      1.327  44.317  25.048  1.00  0.00      H
ATOM   5294  HA  GLU B 161     -1.119  45.827  25.660  1.00  0.00      H
ATOM   5295 1HB  GLU B 161      0.959  46.729  23.673  1.00  0.00      H
ATOM   5296 2HB  GLU B 161      0.855  47.435  25.316  1.00  0.00      H
ATOM   5297 1HG  GLU B 161     -0.844  48.899  24.714  1.00  0.00      H
ATOM   5298 2HG  GLU B 161     -1.583  47.807  23.551  1.00  0.00      H
ATOM   5299  N   SER B 162     -2.020  45.234  23.397  1.00  0.11      N
ATOM   5300  CA  SER B 162     -2.598  44.616  22.242  1.00  0.11      C
ATOM   5301  C   SER B 162     -2.381  45.499  21.065  1.00  0.11      C
ATOM   5302  O   SER B 162     -1.967  46.650  21.196  1.00  0.11      O
ATOM   5303  CB  SER B 162     -4.113  44.377  22.371  1.00  0.11      C
ATOM   5304  OG  SER B 162     -4.614  43.756  21.196  1.00  0.11      O
ATOM   5305  H   SER B 162     -2.583  45.884  23.935  1.00  0.00      H
ATOM   5306  HA  SER B 162     -2.119  43.636  22.074  1.00  0.00      H
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ATOM   5307  1HB  SER B 162      -4.658  45.313  22.560  1.00  0.00      H
ATOM   5308  2HB  SER B 162      -4.320  43.696  23.199  1.00  0.00      H
ATOM   5309   HG  SER B 162      -4.572  44.455  20.511  1.00  0.00      H
ATOM   5310   N   GLU B 163      -2.640  44.951  19.864  1.00  0.13      N
ATOM   5311   CA  GLU B 163      -2.517  45.715  18.661  1.00  0.13      C
ATOM   5312   C   GLU B 163      -3.757  46.533  18.544  1.00  0.13      C
ATOM   5313   O   GLU B 163      -4.830  46.148  19.006  1.00  0.13      O
ATOM   5314   CB  GLU B 163      -2.382  44.835  17.407  1.00  0.13      C
ATOM   5315   CG  GLU B 163      -3.567  43.890  17.202  1.00  0.13      C
ATOM   5316   CD  GLU B 163      -3.153  42.846  16.177  1.00  0.13      C
ATOM   5317   OE1 GLU B 163      -2.076  42.223  16.381  1.00  0.13      O
ATOM   5318   OE2 GLU B 163      -3.900  42.654  15.181  1.00  0.13      O1-
ATOM   5319   H   GLU B 163      -2.775  43.955  19.742  1.00  0.00      H
ATOM   5320   HA  GLU B 163      -1.567  46.269  18.725  1.00  0.00      H
ATOM   5321  1HB  GLU B 163      -1.436  44.272  17.498  1.00  0.00      H
ATOM   5322  2HB  GLU B 163      -2.268  45.510  16.541  1.00  0.00      H
ATOM   5323  1HG  GLU B 163      -4.480  44.422  16.897  1.00  0.00      H
ATOM   5324  2HG  GLU B 163      -3.770  43.349  18.136  1.00  0.00      H
ATOM   5325   N   PRO B 164      -3.611  47.681  17.956  1.00  0.13      N
ATOM   5326   CA  PRO B 164      -4.751  48.542  17.819  1.00  0.13      C
ATOM   5327   C   PRO B 164      -5.680  48.070  16.752  1.00  0.13      C
ATOM   5328   O   PRO B 164      -5.235  47.407  15.818  1.00  0.13      O
ATOM   5329   CB  PRO B 164      -4.189  49.936  17.565  1.00  0.13      C
ATOM   5330   CG  PRO B 164      -2.815  49.909  18.251  1.00  0.13      C
ATOM   5331   CD  PRO B 164      -2.385  48.437  18.167  1.00  0.13      C
ATOM   5332   HA  PRO B 164      -5.283  48.566  18.778  1.00  0.00      H
ATOM   5333  1HB  PRO B 164      -4.771  50.682  18.086  1.00  0.00      H
ATOM   5334  2HB  PRO B 164      -4.110  50.174  16.494  1.00  0.00      H
ATOM   5335  1HG  PRO B 164      -2.913  50.209  19.302  1.00  0.00      H
ATOM   5336  2HG  PRO B 164      -2.076  50.592  17.804  1.00  0.00      H
ATOM   5337  1HD  PRO B 164      -1.699  48.263  17.323  1.00  0.00      H
ATOM   5338  2HD  PRO B 164      -1.875  48.165  19.100  1.00  0.00      H
ATOM   5339   N   LEU B 165      -6.982  48.383  16.888  1.00  0.11      N
ATOM   5340   CA  LEU B 165      -7.932  48.026  15.879  1.00  0.11      C
ATOM   5341   C   LEU B 165      -8.678  49.279  15.565  1.00  0.11      C
ATOM   5342   O   LEU B 165      -8.896  50.112  16.444  1.00  0.11      O
ATOM   5343   CB  LEU B 165      -8.953  46.969  16.327  1.00  0.11      C
ATOM   5344   CG  LEU B 165      -8.309  45.618  16.688  1.00  0.11      C
ATOM   5345   CD1 LEU B 165      -9.377  44.562  17.011  1.00  0.11      C
ATOM   5346   CD2 LEU B 165      -7.321  45.158  15.605  1.00  0.11      C
ATOM   5347   H   LEU B 165      -7.332  48.855  17.713  1.00  0.00      H
ATOM   5348   HA  LEU B 165      -7.399  47.693  14.975  1.00  0.00      H
ATOM   5349  1HB  LEU B 165      -9.663  46.827  15.492  1.00  0.00      H
ATOM   5350  2HB  LEU B 165      -9.540  47.354  17.180  1.00  0.00      H
ATOM   5351   HG  LEU B 165      -7.725  45.756  17.619  1.00  0.00      H
ATOM   5352 1HD1  LEU B 165      -8.889  43.616  17.270  1.00  0.00      H
ATOM   5353 2HD1  LEU B 165     -10.014  44.907  17.841  1.00  0.00      H
ATOM   5354 3HD1  LEU B 165     -10.046  44.410  16.150  1.00  0.00      H
ATOM   5355 1HD2  LEU B 165      -7.258  44.060  15.620  1.00  0.00      H
ATOM   5356 2HD2  LEU B 165      -7.617  45.460  14.591  1.00  0.00      H
ATOM   5357 3HD2  LEU B 165      -6.293  45.461  15.796  1.00  0.00      H
ATOM   5358   N   ASN B 166      -9.077  49.464  14.294  1.00  0.10      N
ATOM   5359   CA  ASN B 166      -9.772  50.674  13.976  1.00  0.10      C
ATOM   5360   C   ASN B 166     -11.234  50.388  14.008  1.00  0.10      C
ATOM   5361   O   ASN B 166     -11.729  49.520  13.291  1.00  0.10      O
ATOM   5362   CB  ASN B 166      -9.460  51.243  12.581  1.00  0.10      C
ATOM   5363   CG  ASN B 166      -8.056  51.831  12.593  1.00  0.10      C
ATOM   5364   OD1 ASN B 166      -7.304  51.681  13.555  1.00  0.10      O
ATOM   5365   ND2 ASN B 166      -7.695  52.538  11.490  1.00  0.10      N
ATOM   5366   H   ASN B 166      -8.920  48.814  13.545  1.00  0.00      H
ATOM   5367   HA  ASN B 166      -9.511  51.470  14.693  1.00  0.00      H
ATOM   5368  1HB  ASN B 166     -10.185  52.051  12.379  1.00  0.00      H
ATOM   5369  2HB  ASN B 166      -9.555  50.487  11.785  1.00  0.00      H
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ATOM   5370 1HD2 ASN B 166    -8.314  52.676  10.714  1.00  0.00    H
ATOM   5371 2HD2 ASN B 166    -6.780  52.955  11.511  1.00  0.00    H
ATOM   5372  N   ILE B 167   -11.959  51.119  14.873  1.00  0.22    N
ATOM   5373  CA  ILE B 167   -13.378  50.962  14.942  1.00  0.22    C
ATOM   5374  C   ILE B 167   -13.954  52.275  14.545  1.00  0.22    C
ATOM   5375  O   ILE B 167   -13.535  53.322  15.035  1.00  0.22    O
ATOM   5376  CB  ILE B 167   -13.880  50.650  16.322  1.00  0.22    C
ATOM   5377  CG1 ILE B 167   -13.316  49.304  16.805  1.00  0.22    C
ATOM   5378  CG2 ILE B 167   -15.418  50.705  16.294  1.00  0.22    C
ATOM   5379  CD1 ILE B 167   -13.532  49.051  18.297  1.00  0.22    C
ATOM   5380  H   ILE B 167   -11.568  51.884  15.416  1.00  0.00    H
ATOM   5381  HA  ILE B 167   -13.699  50.161  14.261  1.00  0.00    H
ATOM   5382  HB  ILE B 167   -13.530  51.440  17.014  1.00  0.00    H
ATOM   5383 1HG1 ILE B 167   -12.227  49.256  16.623  1.00  0.00    H
ATOM   5384 2HG1 ILE B 167   -13.758  48.478  16.219  1.00  0.00    H
ATOM   5385 1HG2 ILE B 167   -15.829  50.544  17.306  1.00  0.00    H
ATOM   5386 2HG2 ILE B 167   -15.817  51.680  15.976  1.00  0.00    H
ATOM   5387 3HG2 ILE B 167   -15.851  49.914  15.670  1.00  0.00    H
ATOM   5388 1HD1 ILE B 167   -13.011  48.136  18.621  1.00  0.00    H
ATOM   5389 2HD1 ILE B 167   -13.158  49.884  18.909  1.00  0.00    H
ATOM   5390 3HD1 ILE B 167   -14.602  48.923  18.511  1.00  0.00    H
ATOM   5391  N   THR B 168   -14.926  52.262  13.618  1.00  0.48    N
ATOM   5392  CA  THR B 168   -15.488  53.513  13.212  1.00  0.48    C
ATOM   5393  C   THR B 168   -16.955  53.470  13.410  1.00  0.48    C
ATOM   5394  O   THR B 168   -17.587  52.419  13.312  1.00  0.48    O
ATOM   5395  CB  THR B 168   -15.289  53.846  11.764  1.00  0.48    C
ATOM   5396  OG1 THR B 168   -15.798  52.802  10.948  1.00  0.48    O
ATOM   5397  CG2 THR B 168   -13.800  54.078  11.494  1.00  0.48    C
ATOM   5398  H   THR B 168   -15.333  51.415  13.242  1.00  0.00    H
ATOM   5399  HA  THR B 168   -15.086  54.315  13.823  1.00  0.00    H
ATOM   5400  HB  THR B 168   -15.828  54.788  11.542  1.00  0.00    H
ATOM   5401  HG1 THR B 168   -16.752  52.753  11.109  1.00  0.00    H
ATOM   5402 1HG2 THR B 168   -13.629  54.378  10.447  1.00  0.00    H
ATOM   5403 2HG2 THR B 168   -13.392  54.871  12.141  1.00  0.00    H
ATOM   5404 3HG2 THR B 168   -13.218  53.159  11.670  1.00  0.00    H
ATOM   5405  N   VAL B 169   -17.538  54.638  13.724  1.00  0.55    N
ATOM   5406  CA  VAL B 169   -18.958  54.667  13.795  1.00  0.55    C
ATOM   5407  C   VAL B 169   -19.375  55.038  12.415  1.00  0.55    C
ATOM   5408  O   VAL B 169   -18.935  56.046  11.863  1.00  0.55    O
ATOM   5409  CB  VAL B 169   -19.532  55.659  14.771  1.00  0.55    C
ATOM   5410  CG1 VAL B 169   -19.096  55.245  16.183  1.00  0.55    C
ATOM   5411  CG2 VAL B 169   -19.102  57.084  14.391  1.00  0.55    C
ATOM   5412  H   VAL B 169   -17.097  55.537  13.643  1.00  0.00    H
ATOM   5413  HA  VAL B 169   -19.344  53.676  14.069  1.00  0.00    H
ATOM   5414  HB  VAL B 169   -20.631  55.570  14.679  1.00  0.00    H
ATOM   5415 1HG1 VAL B 169   -19.882  55.434  16.925  1.00  0.00    H
ATOM   5416 2HG1 VAL B 169   -18.919  54.158  16.250  1.00  0.00    H
ATOM   5417 3HG1 VAL B 169   -18.150  55.715  16.482  1.00  0.00    H
ATOM   5418 1HG2 VAL B 169   -19.962  57.610  14.838  1.00  0.00    H
ATOM   5419 2HG2 VAL B 169   -18.107  57.258  14.822  1.00  0.00    H
ATOM   5420 3HG2 VAL B 169   -19.091  57.488  13.385  1.00  0.00    H
ATOM   5421  N   ILE B 170   -20.221  54.194  11.807  1.00  0.56    N
ATOM   5422  CA  ILE B 170   -20.637  54.415  10.457  1.00  0.56    C
ATOM   5423  C   ILE B 170   -21.357  55.721  10.428  1.00  0.56    C
ATOM   5424  O   ILE B 170   -21.198  56.502   9.490  1.00  0.56    O
ATOM   5425  CB  ILE B 170   -21.546  53.321   9.942  1.00  0.56    C
ATOM   5426  CG1 ILE B 170   -21.728  53.399   8.414  1.00  0.56    C
ATOM   5427  CG2 ILE B 170   -22.867  53.374  10.727  1.00  0.56    C
ATOM   5428  CD1 ILE B 170   -22.467  54.643   7.921  1.00  0.56    C
ATOM   5429  H   ILE B 170   -20.615  53.381  12.272  1.00  0.00    H
ATOM   5430  HA  ILE B 170   -19.739  54.517   9.824  1.00  0.00    H
ATOM   5431  HB  ILE B 170   -21.142  52.353  10.164  1.00  0.00    H
ATOM   5432 1HG1 ILE B 170   -22.296  52.506   8.094  1.00  0.00    H
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ATOM   5433 2HG1 ILE B 170   -20.748  53.323   7.909  1.00  0.00     H
ATOM   5434 1HG2 ILE B 170   -23.219  52.342  10.855  1.00  0.00     H
ATOM   5435 2HG2 ILE B 170   -22.796  53.819  11.714  1.00  0.00     H
ATOM   5436 3HG2 ILE B 170   -23.675  53.912  10.210  1.00  0.00     H
ATOM   5437 1HD1 ILE B 170   -23.115  54.369   7.070  1.00  0.00     H
ATOM   5438 2HD1 ILE B 170   -23.131  55.124   8.651  1.00  0.00     H
ATOM   5439 3HD1 ILE B 170   -21.776  55.394   7.510  1.00  0.00     H
ATOM   5440  N   LYS B 171   -22.156  55.999  11.475  1.00  0.52     N
ATOM   5441  CA  LYS B 171   -22.902  57.220  11.537  1.00  0.52     C
ATOM   5442  C   LYS B 171   -21.908  58.330  11.406  1.00  0.52     C
ATOM   5443  O   LYS B 171   -20.957  58.418  12.180  1.00  0.52     O
ATOM   5444  CB  LYS B 171   -23.649  57.356  12.879  1.00  0.52     C
ATOM   5445  CG  LYS B 171   -24.731  58.436  12.935  1.00  0.52     C
ATOM   5446  CD  LYS B 171   -24.206  59.860  12.790  1.00  0.52     C
ATOM   5447  CE  LYS B 171   -25.263  60.932  13.064  1.00  0.52     C
ATOM   5448  NZ  LYS B 171   -26.436  60.713  12.190  1.00  0.52     N1+
ATOM   5449  H   LYS B 171   -22.064  55.447  12.309  1.00  0.00     H
ATOM   5450  HA  LYS B 171   -23.632  57.218  10.707  1.00  0.00     H
ATOM   5451 1HB  LYS B 171   -22.872  57.525  13.643  1.00  0.00     H
ATOM   5452 2HB  LYS B 171   -24.129  56.387  13.070  1.00  0.00     H
ATOM   5453 1HG  LYS B 171   -25.345  58.368  13.836  1.00  0.00     H
ATOM   5454 2HG  LYS B 171   -25.440  58.243  12.108  1.00  0.00     H
ATOM   5455 1HD  LYS B 171   -23.965  59.931  11.730  1.00  0.00     H
ATOM   5456 2HD  LYS B 171   -23.301  60.050  13.389  1.00  0.00     H
ATOM   5457 1HE  LYS B 171   -24.878  61.943  12.854  1.00  0.00     H
ATOM   5458 2HE  LYS B 171   -25.630  60.929  14.101  1.00  0.00     H
ATOM   5459 1HZ  LYS B 171   -27.152  61.412  12.333  1.00  0.00     H
ATOM   5460 2HZ  LYS B 171   -26.174  60.754  11.214  1.00  0.00     H
ATOM   5461 3HZ  LYS B 171   -26.861  59.813  12.366  1.00  0.00     H
ATOM   5462  N   ALA B 172   -22.097  59.199  10.393  1.00  0.31     N
ATOM   5463  CA  ALA B 172   -21.148  60.249  10.164  1.00  0.31     C
ATOM   5464  C   ALA B 172   -21.773  61.594  10.514  1.00  0.31     C
ATOM   5465  O   ALA B 172   -21.349  62.615   9.889  1.00  0.31     O
ATOM   5466  CB  ALA B 172   -20.692  60.342   8.698  1.00  0.31     C
ATOM   5467  OXT ALA B 172   -22.672  61.637  11.410  1.00  0.31     O1-
ATOM   5468  H   ALA B 172   -22.806  59.090   9.697  1.00  0.00     H
ATOM   5469  HA  ALA B 172   -20.253  60.101  10.785  1.00  0.00     H
ATOM   5470 1HB  ALA B 172   -19.856  61.055   8.602  1.00  0.00     H
ATOM   5471 2HB  ALA B 172   -20.320  59.375   8.320  1.00  0.00     H
ATOM   5472 3HB  ALA B 172   -21.505  60.668   8.030  1.00  0.00     H
TER
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TABLE 5

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REMARK Model of Fc Gamma Receptor type IIIb; V.C. Epa, Feb 02, 1999.
REMARK r3b_mod8.B99990013.pdb
REMARK Produced by MODELLER: 02-Feb-99 01:55:11                              1
REMARK MODELLER OBJECTIVE FUNCTION:       933.2556
ATOM      1  N   ARG     1      36.333  78.544   5.582  1.00  0.75      1SG   2
ATOM      2  CA  ARG     1      36.665  78.748   7.009  1.00  0.75      1SG   3
ATOM      3  CB  ARG     1      37.362  80.102   7.211  1.00  0.75      1SG   4
ATOM      4  CG  ARG     1      38.684  80.236   6.455  1.00  0.75      1SG   5
ATOM      5  CD  ARG     1      39.381  81.577   6.691  1.00  0.75      1SG   6
ATOM      6  NE  ARG     1      38.454  82.648   6.231  1.00  0.75      1SG   7
ATOM      7  CZ  ARG     1      38.575  83.911   6.733  1.00  0.75      1SG   8
ATOM      8  NH1 ARG     1      39.561  84.195   7.632  1.00  0.75      1SG   9
ATOM      9  NH2 ARG     1      37.706  84.888   6.342  1.00  0.75      1SG  10
ATOM     10  C   ARG     1      35.413  78.755   7.815  1.00  0.75      1SG  11
ATOM     11  O   ARG     1      34.422  78.125   7.448  1.00  0.75      1SG  12
ATOM     12  N   THR     2      35.435  79.465   8.957  1.00  0.84      1SG  13
ATOM     13  CA  THR     2      34.253  79.541   9.758  1.00  0.84      1SG  14
ATOM     14  CB  THR     2      34.507  79.998  11.165  1.00  0.84      1SG  15
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ATOM	15	OG1	THR	2	35.036	81.316	11.166	1.00	0.84	1SG	16
ATOM	16	CG2	THR	2	35.505	79.029	11.821	1.00	0.84	1SG	17
ATOM	17	C	THR	2	33.378	80.548	9.098	1.00	0.84	1SG	18
ATOM	18	O	THR	2	33.857	81.407	8.359	1.00	0.84	1SG	19
ATOM	19	N	GLU	3	32.057	80.458	9.329	1.00	0.71	1SG	20
ATOM	20	CA	GLU	3	31.181	81.396	8.699	1.00	0.71	1SG	21
ATOM	21	CB	GLU	3	29.830	80.782	8.299	1.00	0.71	1SG	22
ATOM	22	CG	GLU	3	29.965	79.711	7.214	1.00	0.71	1SG	23
ATOM	23	CD	GLU	3	30.554	80.365	5.972	1.00	0.71	1SG	24
ATOM	24	OE1	GLU	3	30.739	81.612	5.991	1.00	0.71	1SG	25
ATOM	25	OE2	GLU	3	30.827	79.627	4.988	1.00	0.71	1SG	26
ATOM	26	C	GLU	3	30.937	82.497	9.675	1.00	0.71	1SG	27
ATOM	27	O	GLU	3	30.388	82.277	10.753	1.00	0.71	1SG	28
ATOM	28	N	ASP	4	31.367	83.722	9.318	1.00	0.37	1SG	29
ATOM	29	CA	ASP	4	31.218	84.828	10.215	1.00	0.37	1SG	30
ATOM	30	CB	ASP	4	31.857	86.122	9.684	1.00	0.37	1SG	31
ATOM	31	CG	ASP	4	33.370	85.958	9.723	1.00	0.37	1SG	32
ATOM	32	OD1	ASP	4	33.845	85.029	10.428	1.00	0.37	1SG	33
ATOM	33	OD2	ASP	4	34.070	86.765	9.055	1.00	0.37	1SG	34
ATOM	34	C	ASP	4	29.767	85.099	10.401	1.00	0.37	1SG	35
ATOM	35	O	ASP	4	29.251	85.050	11.516	1.00	0.37	1SG	36
ATOM	36	N	LEU	5	29.059	85.370	9.294	1.00	0.17	1SG	37
ATOM	37	CA	LEU	5	27.667	85.668	9.399	1.00	0.17	1SG	38
ATOM	38	CB	LEU	5	27.075	86.177	8.075	1.00	0.17	1SG	39
ATOM	39	CG	LEU	5	27.732	87.486	7.592	1.00	0.17	1SG	40
ATOM	40	CD2	LEU	5	27.709	88.560	8.693	1.00	0.17	1SG	41
ATOM	41	CD1	LEU	5	27.115	87.974	6.271	1.00	0.17	1SG	42
ATOM	42	C	LEU	5	26.999	84.375	9.734	1.00	0.17	1SG	43
ATOM	43	O	LEU	5	27.436	83.315	9.290	1.00	0.17	1SG	44
ATOM	44	N	PRO	6	25.939	84.428	10.491	1.00	0.32	1SG	45
ATOM	45	CA	PRO	6	25.286	83.214	10.886	1.00	0.32	1SG	46
ATOM	46	CD	PRO	6	25.749	85.492	11.462	1.00	0.32	1SG	47
ATOM	47	CB	PRO	6	24.243	83.628	11.919	1.00	0.32	1SG	48
ATOM	48	CG	PRO	6	24.865	84.882	12.566	1.00	0.32	1SG	49
ATOM	49	C	PRO	6	24.755	82.520	9.679	1.00	0.32	1SG	50
ATOM	50	O	PRO	6	24.506	83.182	8.672	1.00	0.32	1SG	51
ATOM	51	N	LYS	7	24.603	81.184	9.741	1.00	0.49	1SG	52
ATOM	52	CA	LYS	7	24.184	80.476	8.572	1.00	0.49	1SG	53
ATOM	53	CB	LYS	7	24.543	78.979	8.570	1.00	0.49	1SG	54
ATOM	54	CG	LYS	7	26.045	78.697	8.611	1.00	0.49	1SG	55
ATOM	55	CD	LYS	7	26.398	77.211	8.617	1.00	0.49	1SG	56
ATOM	56	CE	LYS	7	25.652	76.398	9.673	1.00	0.49	1SG	57
ATOM	57	NZ	LYS	7	26.238	76.623	11.012	1.00	0.49	1SG	58
ATOM	58	C	LYS	7	22.703	80.560	8.420	1.00	0.49	1SG	59
ATOM	59	O	LYS	7	21.958	80.622	9.397	1.00	0.49	1SG	60
ATOM	60	N	ALA	8	22.243	80.568	7.155	1.00	0.29	1SG	61
ATOM	61	CA	ALA	8	20.838	80.543	6.890	1.00	0.29	1SG	62
ATOM	62	CB	ALA	8	20.483	80.789	5.413	1.00	0.29	1SG	63
ATOM	63	C	ALA	8	20.394	79.162	7.254	1.00	0.29	1SG	64
ATOM	64	O	ALA	8	21.215	78.248	7.328	1.00	0.29	1SG	65
ATOM	65	N	VAL	9	19.086	78.978	7.532	1.00	0.10	1SG	66
ATOM	66	CA	VAL	9	18.614	77.679	7.929	1.00	0.10	1SG	67
ATOM	67	CB	VAL	9	18.031	77.676	9.312	1.00	0.10	1SG	68
ATOM	68	CG1	VAL	9	17.521	76.263	9.638	1.00	0.10	1SG	69
ATOM	69	CG2	VAL	9	19.104	78.190	10.287	1.00	0.10	1SG	70
ATOM	70	C	VAL	9	17.537	77.242	6.979	1.00	0.10	1SG	71
ATOM	71	O	VAL	9	16.568	77.964	6.746	1.00	0.10	1SG	72
ATOM	72	N	VAL	10	17.674	76.015	6.431	1.00	0.19	1SG	73
ATOM	73	CA	VAL	10	16.740	75.508	5.463	1.00	0.19	1SG	74
ATOM	74	CB	VAL	10	17.398	74.689	4.392	1.00	0.19	1SG	75
ATOM	75	CG1	VAL	10	16.311	74.126	3.461	1.00	0.19	1SG	76
ATOM	76	CG2	VAL	10	18.435	75.572	3.678	1.00	0.19	1SG	77
ATOM	77	C	VAL	10	15.729	74.638	6.147	1.00	0.19	1SG	78

ATOM	78	O	VAL	10	16.071	73.734	6.909	1.00	0.19	1SG	79
ATOM	79	N	PHE	11	14.436	74.903	5.866	1.00	0.29	1SG	80
ATOM	80	CA	PHE	11	13.341	74.203	6.478	1.00	0.29	1SG	81
ATOM	81	CB	PHE	11	12.390	75.198	7.171	1.00	0.29	1SG	82
ATOM	82	CG	PHE	11	11.324	74.489	7.929	1.00	0.29	1SG	83
ATOM	83	CD1	PHE	11	11.626	73.789	9.074	1.00	0.29	1SG	84
ATOM	84	CD2	PHE	11	10.016	74.560	7.515	1.00	0.29	1SG	85
ATOM	85	CE1	PHE	11	10.640	73.144	9.783	1.00	0.29	1SG	86
ATOM	86	CE2	PHE	11	9.030	73.918	8.223	1.00	0.29	1SG	87
ATOM	87	CZ	PHE	11	9.337	73.205	9.357	1.00	0.29	1SG	88
ATOM	88	C	PHE	11	12.610	73.473	5.386	1.00	0.29	1SG	89
ATOM	89	O	PHE	11	12.366	74.029	4.317	1.00	0.29	1SG	90
ATOM	90	N	LEU	12	12.252	72.194	5.639	1.00	0.22	1SG	91
ATOM	91	CA	LEU	12	11.623	71.357	4.649	1.00	0.22	1SG	92
ATOM	92	CB	LEU	12	12.417	70.050	4.443	1.00	0.22	1SG	93
ATOM	93	CG	LEU	12	11.841	69.069	3.405	1.00	0.22	1SG	94
ATOM	94	CD2	LEU	12	12.543	67.702	3.485	1.00	0.22	1SG	95
ATOM	95	CD1	LEU	12	11.878	69.665	1.988	1.00	0.22	1SG	96
ATOM	96	C	LEU	12	10.245	70.996	5.122	1.00	0.22	1SG	97
ATOM	97	O	LEU	12	10.069	70.535	6.248	1.00	0.22	1SG	98
ATOM	98	N	GLU	13	9.214	71.217	4.272	1.00	0.16	1SG	99
ATOM	99	CA	GLU	13	7.873	70.835	4.636	1.00	0.16	1SG	100
ATOM	100	CB	GLU	13	6.922	72.012	4.907	1.00	0.16	1SG	101
ATOM	101	CG	GLU	13	7.239	72.794	6.177	1.00	0.16	1SG	102
ATOM	102	CD	GLU	13	6.214	73.912	6.297	1.00	0.16	1SG	103
ATOM	103	OE1	GLU	13	4.999	73.592	6.393	1.00	0.16	1SG	104
ATOM	104	OE2	GLU	13	6.630	75.102	6.291	1.00	0.16	1SG	105
ATOM	105	C	GLU	13	7.271	70.102	3.478	1.00	0.16	1SG	106
ATOM	106	O	GLU	13	7.330	70.573	2.342	1.00	0.16	1SG	107
ATOM	107	N	PRO	14	6.706	68.948	3.714	1.00	0.21	1SG	108
ATOM	108	CA	PRO	14	6.667	68.302	4.996	1.00	0.21	1SG	109
ATOM	109	CD	PRO	14	5.925	68.248	2.709	1.00	0.21	1SG	110
ATOM	110	CB	PRO	14	5.700	67.126	4.839	1.00	0.21	1SG	111
ATOM	111	CG	PRO	14	5.667	66.862	3.323	1.00	0.21	1SG	112
ATOM	112	C	PRO	14	8.071	67.870	5.287	1.00	0.21	1SG	113
ATOM	113	O	PRO	14	8.917	67.964	4.402	1.00	0.21	1SG	114
ATOM	114	N	GLN	15	8.326	67.394	6.518	1.00	0.25	1SG	115
ATOM	115	CA	GLN	15	9.620	67.052	7.049	1.00	0.25	1SG	116
ATOM	116	CB	GLN	15	9.550	66.690	8.541	1.00	0.25	1SG	117
ATOM	117	CG	GLN	15	9.071	67.839	9.430	1.00	0.25	1SG	118
ATOM	118	CD	GLN	15	9.049	67.340	10.867	1.00	0.25	1SG	119
ATOM	119	OE1	GLN	15	9.139	68.123	11.812	1.00	0.25	1SG	120
ATOM	120	NE2	GLN	15	8.927	65.996	11.040	1.00	0.25	1SG	121
ATOM	121	C	GLN	15	10.263	65.875	6.364	1.00	0.25	1SG	122
ATOM	122	O	GLN	15	11.479	65.714	6.432	1.00	0.25	1SG	123
ATOM	123	N	TRP	16	9.473	64.991	5.735	1.00	0.44	1SG	124
ATOM	124	CA	TRP	16	9.960	63.744	5.199	1.00	0.44	1SG	125
ATOM	125	CB	TRP	16	8.870	63.023	4.396	1.00	0.44	1SG	126
ATOM	126	CG	TRP	16	7.568	62.935	5.152	1.00	0.44	1SG	127
ATOM	127	CD2	TRP	16	7.393	62.263	6.408	1.00	0.44	1SG	128
ATOM	128	CD1	TRP	16	6.368	63.510	4.849	1.00	0.44	1SG	129
ATOM	129	NE1	TRP	16	5.454	63.236	5.837	1.00	0.44	1SG	130
ATOM	130	CE2	TRP	16	6.072	62.471	6.804	1.00	0.44	1SG	131
ATOM	131	CE3	TRP	16	8.263	61.541	7.173	1.00	0.44	1SG	132
ATOM	132	CZ2	TRP	16	5.599	61.956	7.976	1.00	0.44	1SG	133
ATOM	133	CZ3	TRP	16	7.780	61.016	8.351	1.00	0.44	1SG	134
ATOM	134	CH2	TRP	16	6.473	61.220	8.745	1.00	0.44	1SG	135
ATOM	135	C	TRP	16	11.131	63.929	4.267	1.00	0.44	1SG	136
ATOM	136	O	TRP	16	11.062	64.684	3.297	1.00	0.44	1SG	137
ATOM	137	N	TYR	17	12.261	63.242	4.567	1.00	0.57	1SG	138
ATOM	138	CA	TYR	17	13.440	63.252	3.737	1.00	0.57	1SG	139
ATOM	139	CB	TYR	17	14.749	62.870	4.463	1.00	0.57	1SG	140
ATOM	140	CG	TYR	17	14.639	61.516	5.071	1.00	0.57	1SG	141

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ATOM    141  CD1 TYR  17      14.599  60.383   4.291  1.00  0.57      1SG 142
ATOM    142  CD2 TYR  17      14.616  61.383   6.440  1.00  0.57      1SG 143
ATOM    143  CE1 TYR  17      14.507  59.139   4.869  1.00  0.57      1SG 144
ATOM    144  CE2 TYR  17      14.524  60.142   7.024  1.00  0.57      1SG 145
ATOM    145  CZ  TYR  17      14.465  59.017   6.237  1.00  0.57      1SG 146
ATOM    146  OH  TYR  17      14.370  57.742   6.833  1.00  0.57      1SG 147
ATOM    147  C   TYR  17      13.280  62.371   2.530  1.00  0.57      1SG 148
ATOM    148  O   TYR  17      13.902  62.621   1.498  1.00  0.57      1SG 149
ATOM    149  N   SER  18      12.494  61.278   2.632  1.00  0.33      1SG 150
ATOM    150  CA  SER  18      12.317  60.414   1.493  1.00  0.33      1SG 151
ATOM    151  CB  SER  18      12.454  58.918   1.826  1.00  0.33      1SG 152
ATOM    152  OG  SER  18      11.412  58.518   2.704  1.00  0.33      1SG 153
ATOM    153  C   SER  18      10.925  60.641   0.986  1.00  0.33      1SG 154
ATOM    154  O   SER  18       9.960  60.479   1.730  1.00  0.33      1SG 155
ATOM    155  N   VAL  19      10.783  61.019  -0.304  1.00  0.11      1SG 156
ATOM    156  CA  VAL  19       9.477  61.311  -0.838  1.00  0.11      1SG 157
ATOM    157  CB  VAL  19       9.269  62.761  -1.167  1.00  0.11      1SG 158
ATOM    158  CG1 VAL  19       9.380  63.581   0.130  1.00  0.11      1SG 159
ATOM    159  CG2 VAL  19      10.274  63.169  -2.257  1.00  0.11      1SG 160
ATOM    160  C   VAL  19       9.271  60.547  -2.114  1.00  0.11      1SG 161
ATOM    161  O   VAL  19      10.165  59.855  -2.599  1.00  0.11      1SG 162
ATOM    162  N   LEU  20       8.048  60.648  -2.680  1.00  0.12      1SG 163
ATOM    163  CA  LEU  20       7.707  59.953  -3.890  1.00  0.12      1SG 164
ATOM    164  CB  LEU  20       6.371  59.199  -3.799  1.00  0.12      1SG 165
ATOM    165  CG  LEU  20       6.393  58.029  -2.795  1.00  0.12      1SG 166
ATOM    166  CD2 LEU  20       7.551  57.064  -3.096  1.00  0.12      1SG 167
ATOM    167  CD1 LEU  20       5.036  57.311  -2.743  1.00  0.12      1SG 168
ATOM    168  C   LEU  20       7.584  60.945  -5.006  1.00  0.12      1SG 169
ATOM    169  O   LEU  20       7.318  62.129  -4.797  1.00  0.12      1SG 170
ATOM    170  N   GLU  21       7.793  60.471  -6.250  1.00  0.27      1SG 171
ATOM    171  CA  GLU  21       7.682  61.341  -7.379  1.00  0.27      1SG 172
ATOM    172  CB  GLU  21       7.866  60.617  -8.725  1.00  0.27      1SG 173
ATOM    173  CG  GLU  21       9.271  60.049  -8.935  1.00  0.27      1SG 174
ATOM    174  CD  GLU  21       9.297  59.370 -10.297  1.00  0.27      1SG 175
ATOM    175  OE1 GLU  21       8.246  59.409 -10.992  1.00  0.27      1SG 176
ATOM    176  OE2 GLU  21      10.363  58.805 -10.660  1.00  0.27      1SG 177
ATOM    177  C   GLU  21       6.305  61.919  -7.359  1.00  0.27      1SG 178
ATOM    178  O   GLU  21       5.336  61.251  -7.002  1.00  0.27      1SG 179
ATOM    179  N   LYS  22       6.206  63.202  -7.752  1.00  0.41      1SG 180
ATOM    180  CA  LYS  22       4.977  63.941  -7.839  1.00  0.41      1SG 181
ATOM    181  CB  LYS  22       3.802  63.104  -8.379  1.00  0.41      1SG 182
ATOM    182  CG  LYS  22       2.521  63.919  -8.568  1.00  0.41      1SG 183
ATOM    183  CD  LYS  22       1.471  63.227  -9.442  1.00  0.41      1SG 184
ATOM    184  CE  LYS  22       1.782  63.301 -10.939  1.00  0.41      1SG 185
ATOM    185  NZ  LYS  22       0.726  62.610 -11.713  1.00  0.41      1SG 186
ATOM    186  C   LYS  22       4.576  64.522  -6.511  1.00  0.41      1SG 187
ATOM    187  O   LYS  22       3.617  65.290  -6.454  1.00  0.41      1SG 188
ATOM    188  N   ASP  23       5.298  64.220  -5.413  1.00  0.26      1SG 189
ATOM    189  CA  ASP  23       4.948  64.822  -4.152  1.00  0.26      1SG 190
ATOM    190  CB  ASP  23       5.586  64.148  -2.921  1.00  0.26      1SG 191
ATOM    191  CG  ASP  23       4.923  62.800  -2.666  1.00  0.26      1SG 192
ATOM    192  OD1 ASP  23       3.763  62.602  -3.117  1.00  0.26      1SG 193
ATOM    193  OD2 ASP  23       5.574  61.949  -2.004  1.00  0.26      1SG 194
ATOM    194  C   ASP  23       5.437  66.242  -4.163  1.00  0.26      1SG 195
ATOM    195  O   ASP  23       6.388  66.584  -4.872  1.00  0.26      1SG 196
ATOM    196  N   SER  24       4.784  67.104  -3.350  1.00  0.11      1SG 197
ATOM    197  CA  SER  24       5.124  68.497  -3.284  1.00  0.11      1SG 198
ATOM    198  CB  SER  24       3.932  69.399  -2.918  1.00  0.11      1SG 199
ATOM    199  OG  SER  24       4.336  70.760  -2.873  1.00  0.11      1SG 200
ATOM    200  C   SER  24       6.159  68.680  -2.222  1.00  0.11      1SG 201
ATOM    201  O   SER  24       6.104  68.045  -1.171  1.00  0.11      1SG 202
ATOM    202  N   VAL  25       7.164  69.537  -2.487  1.00  0.10      1SG 203
ATOM    203  CA  VAL  25       8.167  69.792  -1.492  1.00  0.10      1SG 204
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ATOM    204  CB  VAL  25       9.530  69.287  -1.877  1.00  0.10      1SG 205
ATOM    205  CG1 VAL  25      10.534  69.704  -0.789  1.00  0.10      1SG 206
ATOM    206  CG2 VAL  25       9.453  67.767  -2.104  1.00  0.10      1SG 207
ATOM    207  C   VAL  25       8.278  71.276  -1.344  1.00  0.10      1SG 208
ATOM    208  O   VAL  25       8.336  71.999  -2.338  1.00  0.10      1SG 209
ATOM    209  N   THR  26       8.295  71.766  -0.084  1.00  0.09      1SG 210
ATOM    210  CA  THR  26       8.408  73.177   0.164  1.00  0.09      1SG 211
ATOM    211  CB  THR  26       7.254  73.732   0.946  1.00  0.09      1SG 212
ATOM    212  OG1 THR  26       6.040  73.502   0.247  1.00  0.09      1SG 213
ATOM    213  CG2 THR  26       7.467  75.243   1.142  1.00  0.09      1SG 214
ATOM    214  C   THR  26       9.640  73.398   0.982  1.00  0.09      1SG 215
ATOM    215  O   THR  26       9.791  72.851   2.073  1.00  0.09      1SG 216
ATOM    216  N   LEU  27      10.568  74.219   0.461  1.00  0.16      1SG 217
ATOM    217  CA  LEU  27      11.777  74.529   1.162  1.00  0.16      1SG 218
ATOM    218  CB  LEU  27      13.031  74.380   0.286  1.00  0.16      1SG 219
ATOM    219  CG  LEU  27      13.325  72.930  -0.140  1.00  0.16      1SG 220
ATOM    220  CD2 LEU  27      13.423  72.008   1.081  1.00  0.16      1SG 221
ATOM    221  CD1 LEU  27      14.585  72.854  -1.013  1.00  0.16      1SG 222
ATOM    222  C   LEU  27      11.683  75.974   1.550  1.00  0.16      1SG 223
ATOM    223  O   LEU  27      11.267  76.812   0.752  1.00  0.16      1SG 224
ATOM    224  N   LYS  28      12.051  76.300   2.806  1.00  0.26      1SG 225
ATOM    225  CA  LYS  28      11.982  77.664   3.253  1.00  0.26      1SG 226
ATOM    226  CB  LYS  28      11.025  77.848   4.443  1.00  0.26      1SG 227
ATOM    227  CG  LYS  28       9.559  77.562   4.112  1.00  0.26      1SG 228
ATOM    228  CD  LYS  28       8.696  77.332   5.355  1.00  0.26      1SG 229
ATOM    229  CE  LYS  28       8.759  78.477   6.369  1.00  0.26      1SG 230
ATOM    230  NZ  LYS  28       7.898  78.171   7.534  1.00  0.26      1SG 231
ATOM    231  C   LYS  28      13.350  78.065   3.716  1.00  0.26      1SG 232
ATOM    232  O   LYS  28      13.972  77.361   4.510  1.00  0.26      1SG 233
ATOM    233  N   CYS  29      13.855  79.221   3.231  1.00  0.25      1SG 234
ATOM    234  CA  CYS  29      15.166  79.665   3.623  1.00  0.25      1SG 235
ATOM    235  CB  CYS  29      15.989  80.261   2.466  1.00  0.25      1SG 236
ATOM    236  SG  CYS  29      17.746  80.487   2.876  1.00  0.25      1SG 237
ATOM    237  C   CYS  29      14.976  80.743   4.635  1.00  0.25      1SG 238
ATOM    238  O   CYS  29      14.520  81.842   4.318  1.00  0.25      1SG 239
ATOM    239  N   GLN  30      15.362  80.444   5.888  1.00  0.20      1SG 240
ATOM    240  CA  GLN  30      15.150  81.352   6.974  1.00  0.20      1SG 241
ATOM    241  CB  GLN  30      14.662  80.641   8.250  1.00  0.20      1SG 242
ATOM    242  CG  GLN  30      13.328  79.910   8.073  1.00  0.20      1SG 243
ATOM    243  CD  GLN  30      12.990  79.231   9.393  1.00  0.20      1SG 244
ATOM    244  OE1 GLN  30      13.436  79.665  10.454  1.00  0.20      1SG 245
ATOM    245  NE2 GLN  30      12.190  78.133   9.331  1.00  0.20      1SG 246
ATOM    246  C   GLN  30      16.447  82.021   7.307  1.00  0.20      1SG 247
ATOM    247  O   GLN  30      17.516  81.416   7.227  1.00  0.20      1SG 248
ATOM    248  N   GLY  31      16.370  83.318   7.670  1.00  0.17      1SG 249
ATOM    249  CA  GLY  31      17.534  84.063   8.057  1.00  0.17      1SG 250
ATOM    250  C   GLY  31      17.314  85.486   7.647  1.00  0.17      1SG 251
ATOM    251  O   GLY  31      16.372  85.790   6.917  1.00  0.17      1SG 252
ATOM    252  N   ALA  32      18.204  86.394   8.100  1.00  0.26      1SG 253
ATOM    253  CA  ALA  32      18.069  87.786   7.779  1.00  0.26      1SG 254
ATOM    254  CB  ALA  32      19.036  88.698   8.555  1.00  0.26      1SG 255
ATOM    255  C   ALA  32      18.361  87.941   6.323  1.00  0.26      1SG 256
ATOM    256  O   ALA  32      19.239  87.270   5.783  1.00  0.26      1SG 257
ATOM    257  N   TYR  33      17.622  88.851   5.656  1.00  0.37      1SG 258
ATOM    258  CA  TYR  33      17.742  89.029   4.237  1.00  0.37      1SG 259
ATOM    259  CB  TYR  33      16.403  88.888   3.494  1.00  0.37      1SG 260
ATOM    260  CG  TYR  33      15.701  87.652   3.939  1.00  0.37      1SG 261
ATOM    261  CD1 TYR  33      16.014  86.413   3.431  1.00  0.37      1SG 262
ATOM    262  CD2 TYR  33      14.701  87.754   4.878  1.00  0.37      1SG 263
ATOM    263  CE1 TYR  33      15.336  85.295   3.863  1.00  0.37      1SG 264
ATOM    264  CE2 TYR  33      14.020  86.642   5.313  1.00  0.37      1SG 265
ATOM    265  CZ  TYR  33      14.340  85.408   4.804  1.00  0.37      1SG 266
ATOM    266  OH  TYR  33      13.646  84.261   5.243  1.00  0.37      1SG 267
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ATOM	267	C	TYR	33	18.105	90.462	3.998	1.00	0.37	1SG	268
ATOM	268	O	TYR	33	18.011	91.297	4.896	1.00	0.37	1SG	269
ATOM	269	N	SER	34	18.565	90.773	2.768	1.00	0.30	1SG	270
ATOM	270	CA	SER	34	18.837	92.136	2.411	1.00	0.30	1SG	271
ATOM	271	CB	SER	34	19.977	92.293	1.390	1.00	0.30	1SG	272
ATOM	272	OG	SER	34	21.202	91.842	1.949	1.00	0.30	1SG	273
ATOM	273	C	SER	34	17.592	92.664	1.776	1.00	0.30	1SG	274
ATOM	274	O	SER	34	16.777	91.896	1.264	1.00	0.30	1SG	275
ATOM	275	N	PRO	35	17.383	93.950	1.821	1.00	0.24	1SG	276
ATOM	276	CA	PRO	35	16.224	94.476	1.167	1.00	0.24	1SG	277
ATOM	277	CD	PRO	35	17.816	94.788	2.923	1.00	0.24	1SG	278
ATOM	278	CB	PRO	35	16.024	95.891	1.717	1.00	0.24	1SG	279
ATOM	279	CG	PRO	35	17.306	96.182	2.527	1.00	0.24	1SG	280
ATOM	280	C	PRO	35	16.414	94.377	-0.309	1.00	0.24	1SG	281
ATOM	281	O	PRO	35	17.086	95.235	-0.882	1.00	0.24	1SG	282
ATOM	282	N	GLU	36	15.796	93.358	-0.938	1.00	0.28	1SG	283
ATOM	283	CA	GLU	36	15.884	93.180	-2.356	1.00	0.28	1SG	284
ATOM	284	CB	GLU	36	17.245	92.670	-2.865	1.00	0.28	1SG	285
ATOM	285	CG	GLU	36	17.579	91.245	-2.422	1.00	0.28	1SG	286
ATOM	286	CD	GLU	36	18.911	90.862	-3.049	1.00	0.28	1SG	287
ATOM	287	OE1	GLU	36	18.954	90.706	-4.299	1.00	0.28	1SG	288
ATOM	288	OE2	GLU	36	19.906	90.723	-2.288	1.00	0.28	1SG	289
ATOM	289	C	GLU	36	14.878	92.137	-2.725	1.00	0.28	1SG	290
ATOM	290	O	GLU	36	14.517	91.286	-1.912	1.00	0.28	1SG	291
ATOM	291	N	ASP	37	14.393	92.191	-3.978	1.00	0.30	1SG	292
ATOM	292	CA	ASP	37	13.415	91.251	-4.436	1.00	0.30	1SG	293
ATOM	293	CB	ASP	37	12.885	91.582	-5.842	1.00	0.30	1SG	294
ATOM	294	CG	ASP	37	11.706	90.667	-6.145	1.00	0.30	1SG	295
ATOM	295	OD1	ASP	37	11.405	89.773	-5.310	1.00	0.30	1SG	296
ATOM	296	OD2	ASP	37	11.086	90.853	-7.226	1.00	0.30	1SG	297
ATOM	297	C	ASP	37	14.020	89.882	-4.499	1.00	0.30	1SG	298
ATOM	298	O	ASP	37	13.423	88.916	-4.026	1.00	0.30	1SG	299
ATOM	299	N	ASN	38	15.227	89.754	-5.088	1.00	0.32	1SG	300
ATOM	300	CA	ASN	38	15.808	88.444	-5.198	1.00	0.32	1SG	301
ATOM	301	CB	ASN	38	16.651	88.257	-6.472	1.00	0.32	1SG	302
ATOM	302	CG	ASN	38	15.715	88.249	-7.675	1.00	0.32	1SG	303
ATOM	303	OD1	ASN	38	14.501	88.106	-7.540	1.00	0.32	1SG	304
ATOM	304	ND2	ASN	38	16.300	88.393	-8.894	1.00	0.32	1SG	305
ATOM	305	C	ASN	38	16.722	88.253	-4.028	1.00	0.32	1SG	306
ATOM	306	O	ASN	38	17.941	88.343	-4.157	1.00	0.32	1SG	307
ATOM	307	N	SER	39	16.129	87.978	-2.851	1.00	0.48	1SG	308
ATOM	308	CA	SER	39	16.810	87.823	-1.597	1.00	0.48	1SG	309
ATOM	309	CB	SER	39	15.861	87.925	-0.392	1.00	0.48	1SG	310
ATOM	310	OG	SER	39	15.314	89.231	-0.308	1.00	0.48	1SG	311
ATOM	311	C	SER	39	17.535	86.510	-1.448	1.00	0.48	1SG	312
ATOM	312	O	SER	39	18.534	86.442	-0.737	1.00	0.48	1SG	313
ATOM	313	N	THR	40	17.061	85.405	-2.055	1.00	0.54	1SG	314
ATOM	314	CA	THR	40	17.721	84.170	-1.709	1.00	0.54	1SG	315
ATOM	315	CB	THR	40	16.821	83.202	-0.997	1.00	0.54	1SG	316
ATOM	316	OG1	THR	40	15.745	82.821	-1.841	1.00	0.54	1SG	317
ATOM	317	CG2	THR	40	16.283	83.878	0.276	1.00	0.54	1SG	318
ATOM	318	C	THR	40	18.276	83.447	-2.899	1.00	0.54	1SG	319
ATOM	319	O	THR	40	17.733	83.482	-4.001	1.00	0.54	1SG	320
ATOM	320	N	GLN	41	19.415	82.757	-2.678	1.00	0.31	1SG	321
ATOM	321	CA	GLN	41	20.021	81.948	-3.694	1.00	0.31	1SG	322
ATOM	322	CB	GLN	41	21.552	82.067	-3.738	1.00	0.31	1SG	323
ATOM	323	CG	GLN	41	22.071	83.453	-4.118	1.00	0.31	1SG	324
ATOM	324	CD	GLN	41	23.581	83.418	-3.944	1.00	0.31	1SG	325
ATOM	325	OE1	GLN	41	24.283	84.384	-4.235	1.00	0.31	1SG	326
ATOM	326	NE2	GLN	41	24.101	82.266	-3.443	1.00	0.31	1SG	327
ATOM	327	C	GLN	41	19.738	80.532	-3.297	1.00	0.31	1SG	328
ATOM	328	O	GLN	41	19.972	80.153	-2.150	1.00	0.31	1SG	329
ATOM	329	N	TRP	42	19.207	79.715	-4.229	1.00	0.13	1SG	330

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ATOM    330  CA  TRP    42      18.948  78.336  -3.910  1.00  0.13      1SG 331
ATOM    331  CB  TRP    42      17.531  77.840  -4.248  1.00  0.13      1SG 332
ATOM    332  CG  TRP    42      16.469  78.313  -3.291  1.00  0.13      1SG 333
ATOM    333  CD2 TRP    42      16.139  77.634  -2.069  1.00  0.13      1SG 334
ATOM    334  CD1 TRP    42      15.660  79.406  -3.359  1.00  0.13      1SG 335
ATOM    335  NE1 TRP    42      14.849  79.450  -2.253  1.00  0.13      1SG 336
ATOM    336  CE2 TRP    42      15.130  78.368  -1.451  1.00  0.13      1SG 337
ATOM    337  CE3 TRP    42      16.638  76.495  -1.506  1.00  0.13      1SG 338
ATOM    338  CZ2 TRP    42      14.601  77.977  -0.255  1.00  0.13      1SG 339
ATOM    339  CZ3 TRP    42      16.101  76.100  -0.301  1.00  0.13      1SG 340
ATOM    340  CH2 TRP    42      15.101  76.827   0.312  1.00  0.13      1SG 341
ATOM    341  C   TRP    42      19.895  77.498  -4.701  1.00  0.13      1SG 342
ATOM    342  O   TRP    42      20.228  77.832  -5.836  1.00  0.13      1SG 343
ATOM    343  N   PHE    43      20.367  76.385  -4.099  1.00  0.11      1SG 344
ATOM    344  CA  PHE    43      21.302  75.544  -4.787  1.00  0.11      1SG 345
ATOM    345  CB  PHE    43      22.711  75.557  -4.166  1.00  0.11      1SG 346
ATOM    346  CG  PHE    43      23.295  76.925  -4.278  1.00  0.11      1SG 347
ATOM    347  CD1 PHE    43      23.030  77.879  -3.322  1.00  0.11      1SG 348
ATOM    348  CD2 PHE    43      24.113  77.251  -5.335  1.00  0.11      1SG 349
ATOM    349  CE1 PHE    43      23.572  79.139  -3.421  1.00  0.11      1SG 350
ATOM    350  CE2 PHE    43      24.658  78.510  -5.440  1.00  0.11      1SG 351
ATOM    351  CZ  PHE    43      24.386  79.457  -4.482  1.00  0.11      1SG 352
ATOM    352  C   PHE    43      20.843  74.120  -4.693  1.00  0.11      1SG 353
ATOM    353  O   PHE    43      20.285  73.695  -3.682  1.00  0.11      1SG 354
ATOM    354  N   HIS    44      21.065  73.353  -5.782  1.00  0.13      1SG 355
ATOM    355  CA  HIS    44      20.777  71.948  -5.815  1.00  0.13      1SG 356
ATOM    356  ND1 HIS    44      18.580  69.494  -7.813  1.00  0.13      1SG 357
ATOM    357  CG  HIS    44      19.360  70.111  -6.859  1.00  0.13      1SG 358
ATOM    358  CB  HIS    44      19.757  71.560  -6.902  1.00  0.13      1SG 359
ATOM    359  NE2 HIS    44      19.059  67.948  -6.288  1.00  0.13      1SG 360
ATOM    360  CD2 HIS    44      19.643  69.152  -5.935  1.00  0.13      1SG 361
ATOM    361  CE1 HIS    44      18.432  68.203  -7.422  1.00  0.13      1SG 362
ATOM    362  C   HIS    44      22.070  71.286  -6.166  1.00  0.13      1SG 363
ATOM    363  O   HIS    44      22.582  71.465  -7.270  1.00  0.13      1SG 364
ATOM    364  N   ASN    45      22.633  70.494  -5.234  1.00  0.21      1SG 365
ATOM    365  CA  ASN    45      23.888  69.850  -5.489  1.00  0.21      1SG 366
ATOM    366  CB  ASN    45      23.811  68.784  -6.595  1.00  0.21      1SG 367
ATOM    367  CG  ASN    45      23.006  67.606  -6.063  1.00  0.21      1SG 368
ATOM    368  OD1 ASN    45      22.804  67.465  -4.857  1.00  0.21      1SG 369
ATOM    369  ND2 ASN    45      22.542  66.723  -6.987  1.00  0.21      1SG 370
ATOM    370  C   ASN    45      24.885  70.895  -5.896  1.00  0.21      1SG 371
ATOM    371  O   ASN    45      25.698  70.672  -6.792  1.00  0.21      1SG 372
ATOM    372  N   GLU    46      24.851  72.063  -5.223  1.00  0.25      1SG 373
ATOM    373  CA  GLU    46      25.781  73.134  -5.465  1.00  0.25      1SG 374
ATOM    374  CB  GLU    46      27.239  72.652  -5.580  1.00  0.25      1SG 375
ATOM    375  CG  GLU    46      27.885  72.278  -4.245  1.00  0.25      1SG 376
ATOM    376  CD  GLU    46      28.429  73.558  -3.621  1.00  0.25      1SG 377
ATOM    377  OE1 GLU    46      28.277  74.634  -4.260  1.00  0.25      1SG 378
ATOM    378  OE2 GLU    46      29.006  73.479  -2.503  1.00  0.25      1SG 379
ATOM    379  C   GLU    46      25.473  73.880  -6.731  1.00  0.25      1SG 380
ATOM    380  O   GLU    46      26.222  74.785  -7.095  1.00  0.25      1SG 381
ATOM    381  N   SER    47      24.364  73.575  -7.430  1.00  0.17      1SG 382
ATOM    382  CA  SER    47      24.095  74.317  -8.633  1.00  0.17      1SG 383
ATOM    383  CB  SER    47      23.621  73.440  -9.806  1.00  0.17      1SG 384
ATOM    384  OG  SER    47      24.655  72.553 -10.206  1.00  0.17      1SG 385
ATOM    385  C   SER    47      22.995  75.284  -8.328  1.00  0.17      1SG 386
ATOM    386  O   SER    47      21.985  74.922  -7.728  1.00  0.17      1SG 387
ATOM    387  N   LEU    48      23.167  76.556  -8.743  1.00  0.23      1SG 388
ATOM    388  CA  LEU    48      22.186  77.559  -8.441  1.00  0.23      1SG 389
ATOM    389  CB  LEU    48      22.626  78.993  -8.790  1.00  0.23      1SG 390
ATOM    390  CG  LEU    48      21.562  80.060  -8.465  1.00  0.23      1SG 391
ATOM    391  CD2 LEU    48      21.917  81.419  -9.089  1.00  0.23      1SG 392
ATOM    392  CD1 LEU    48      21.311  80.151  -6.951  1.00  0.23      1SG 393
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ATOM	393	C	LEU	48	20.947	77.283	-9.227	1.00	0.23	1SG	394
ATOM	394	O	LEU	48	21.009	76.888	-10.389	1.00	0.23	1SG	395
ATOM	395	N	ILE	49	19.775	77.464	-8.584	1.00	0.46	1SG	396
ATOM	396	CA	ILE	49	18.531	77.323	-9.283	1.00	0.46	1SG	397
ATOM	397	CB	ILE	49	17.549	76.400	-8.612	1.00	0.46	1SG	398
ATOM	398	CG2	ILE	49	18.080	74.962	-8.702	1.00	0.46	1SG	399
ATOM	399	CG1	ILE	49	17.241	76.864	-7.186	1.00	0.46	1SG	400
ATOM	400	CD1	ILE	49	16.161	76.019	-6.512	1.00	0.46	1SG	401
ATOM	401	C	ILE	49	17.942	78.697	-9.391	1.00	0.46	1SG	402
ATOM	402	O	ILE	49	17.639	79.357	-8.403	1.00	0.46	1SG	403
ATOM	403	N	SER	50	17.764	79.156	-10.636	1.00	0.56	1SG	404
ATOM	404	CA	SER	50	17.325	80.482	-10.966	1.00	0.56	1SG	405
ATOM	405	CB	SER	50	17.505	80.793	-12.460	1.00	0.56	1SG	406
ATOM	406	OG	SER	50	18.882	80.738	-12.803	1.00	0.56	1SG	407
ATOM	407	C	SER	50	15.878	80.719	-10.618	1.00	0.56	1SG	408
ATOM	408	O	SER	50	15.446	81.866	-10.519	1.00	0.56	1SG	409
ATOM	409	N	SER	51	15.082	79.649	-10.449	1.00	0.61	1SG	410
ATOM	410	CA	SER	51	13.649	79.730	-10.325	1.00	0.61	1SG	411
ATOM	411	CB	SER	51	13.004	78.340	-10.202	1.00	0.61	1SG	412
ATOM	412	OG	SER	51	13.266	77.580	-11.372	1.00	0.61	1SG	413
ATOM	413	C	SER	51	13.097	80.566	-9.184	1.00	0.61	1SG	414
ATOM	414	O	SER	51	12.185	81.348	-9.451	1.00	0.61	1SG	415
ATOM	415	N	GLN	52	13.569	80.481	-7.907	1.00	0.62	1SG	416
ATOM	416	CA	GLN	52	12.750	81.193	-6.937	1.00	0.62	1SG	417
ATOM	417	CB	GLN	52	11.586	80.313	-6.439	1.00	0.62	1SG	418
ATOM	418	CG	GLN	52	10.443	81.071	-5.758	1.00	0.62	1SG	419
ATOM	419	CD	GLN	52	9.317	80.075	-5.510	1.00	0.62	1SG	420
ATOM	420	OE1	GLN	52	9.529	78.864	-5.547	1.00	0.62	1SG	421
ATOM	421	NE2	GLN	52	8.086	80.594	-5.258	1.00	0.62	1SG	422
ATOM	422	C	GLN	52	13.480	81.759	-5.707	1.00	0.62	1SG	423
ATOM	423	O	GLN	52	14.681	81.533	-5.549	1.00	0.62	1SG	424
ATOM	424	N	ALA	53	12.693	82.502	-4.835	1.00	0.57	1SG	425
ATOM	425	CA	ALA	53	12.863	83.308	-3.621	1.00	0.57	1SG	426
ATOM	426	CB	ALA	53	11.846	84.457	-3.520	1.00	0.57	1SG	427
ATOM	427	C	ALA	53	12.782	82.536	-2.306	1.00	0.57	1SG	428
ATOM	428	O	ALA	53	13.156	81.373	-2.235	1.00	0.57	1SG	429
ATOM	429	N	SER	54	12.284	83.191	-1.212	1.00	0.58	1SG	430
ATOM	430	CA	SER	54	12.293	82.741	0.175	1.00	0.58	1SG	431
ATOM	431	CB	SER	54	11.521	83.693	1.105	1.00	0.58	1SG	432
ATOM	432	OG	SER	54	12.131	84.975	1.114	1.00	0.58	1SG	433
ATOM	433	C	SER	54	11.680	81.388	0.356	1.00	0.58	1SG	434
ATOM	434	O	SER	54	12.214	80.553	1.090	1.00	0.58	1SG	435
ATOM	435	N	SER	55	10.517	81.132	-0.255	1.00	0.46	1SG	436
ATOM	436	CA	SER	55	9.984	79.811	-0.133	1.00	0.46	1SG	437
ATOM	437	CB	SER	55	8.524	79.757	0.347	1.00	0.46	1SG	438
ATOM	438	OG	SER	55	7.666	80.343	-0.618	1.00	0.46	1SG	439
ATOM	439	C	SER	55	10.047	79.255	-1.508	1.00	0.46	1SG	440
ATOM	440	O	SER	55	9.761	79.953	-2.479	1.00	0.46	1SG	441
ATOM	441	N	TYR	56	10.485	77.992	-1.622	1.00	0.43	1SG	442
ATOM	442	CA	TYR	56	10.595	77.372	-2.903	1.00	0.43	1SG	443
ATOM	443	CB	TYR	56	12.067	77.058	-3.232	1.00	0.43	1SG	444
ATOM	444	CG	TYR	56	12.177	76.276	-4.492	1.00	0.43	1SG	445
ATOM	445	CD1	TYR	56	11.797	76.812	-5.701	1.00	0.43	1SG	446
ATOM	446	CD2	TYR	56	12.710	75.010	-4.460	1.00	0.43	1SG	447
ATOM	447	CE1	TYR	56	11.919	76.076	-6.857	1.00	0.43	1SG	448
ATOM	448	CE2	TYR	56	12.836	74.270	-5.612	1.00	0.43	1SG	449
ATOM	449	CZ	TYR	56	12.436	74.803	-6.814	1.00	0.43	1SG	450
ATOM	450	OH	TYR	56	12.563	74.048	-8.000	1.00	0.43	1SG	451
ATOM	451	C	TYR	56	9.801	76.113	-2.812	1.00	0.43	1SG	452
ATOM	452	O	TYR	56	10.155	75.196	-2.074	1.00	0.43	1SG	453
ATOM	453	N	PHE	57	8.684	76.046	-3.561	1.00	0.62	1SG	454
ATOM	454	CA	PHE	57	7.847	74.888	-3.487	1.00	0.62	1SG	455
ATOM	455	CB	PHE	57	6.421	75.206	-2.996	1.00	0.62	1SG	456

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ATOM    456  CG  PHE    57       5.802  76.189  -3.932  1.00  0.62          1SG 457
ATOM    457  CD1 PHE    57       5.086  75.764  -5.028  1.00  0.62          1SG 458
ATOM    458  CD2 PHE    57       5.937  77.540  -3.710  1.00  0.62          1SG 459
ATOM    459  CE1 PHE    57       4.514  76.671  -5.889  1.00  0.62          1SG 460
ATOM    460  CE2 PHE    57       5.368  78.452  -4.567  1.00  0.62          1SG 461
ATOM    461  CZ  PHE    57       4.655  78.018  -5.659  1.00  0.62          1SG 462
ATOM    462  C   PHE    57       7.760  74.286  -4.844  1.00  0.62          1SG 463
ATOM    463  O   PHE    57       7.588  74.986  -5.840  1.00  0.62          1SG 464
ATOM    464  N   ILE    58       7.914  72.952  -4.921  1.00  0.54          1SG 465
ATOM    465  CA  ILE    58       7.807  72.349  -6.209  1.00  0.54          1SG 466
ATOM    466  CB  ILE    58       9.127  72.238  -6.929  1.00  0.54          1SG 467
ATOM    467  CG2 ILE    58       9.613  73.672  -7.192  1.00  0.54          1SG 468
ATOM    468  CG1 ILE    58      10.148  71.373  -6.163  1.00  0.54          1SG 469
ATOM    469  CD1 ILE    58       9.908  69.865  -6.239  1.00  0.54          1SG 470
ATOM    470  C   ILE    58       7.196  70.999  -6.075  1.00  0.54          1SG 471
ATOM    471  O   ILE    58       7.445  70.281  -5.109  1.00  0.54          1SG 472
ATOM    472  N   ASP    59       6.318  70.643  -7.038  1.00  0.34          1SG 473
ATOM    473  CA  ASP    59       5.869  69.286  -7.121  1.00  0.34          1SG 474
ATOM    474  CB  ASP    59       4.410  69.150  -7.587  1.00  0.34          1SG 475
ATOM    475  CG  ASP    59       3.516  69.675  -6.473  1.00  0.34          1SG 476
ATOM    476  OD1 ASP    59       4.061  70.282  -5.514  1.00  0.34          1SG 477
ATOM    477  OD2 ASP    59       2.277  69.465  -6.562  1.00  0.34          1SG 478
ATOM    478  C   ASP    59       6.741  68.771  -8.189  1.00  0.34          1SG 479
ATOM    479  O   ASP    59       6.411  67.882  -8.972  1.00  0.34          1SG 480
ATOM    480  N   ALA    60       7.950  69.337  -8.208  1.00  0.27          1SG 481
ATOM    481  CA  ALA    60       8.903  68.892  -9.141  1.00  0.27          1SG 482
ATOM    482  CB  ALA    60       9.978  69.945  -9.459  1.00  0.27          1SG 483
ATOM    483  C   ALA    60       9.569  67.769  -8.452  1.00  0.27          1SG 484
ATOM    484  O   ALA    60      10.713  67.472  -8.784  1.00  0.27          1SG 485
ATOM    485  N   ALA    61       8.892  67.133  -7.457  1.00  0.37          1SG 486
ATOM    486  CA  ALA    61       9.565  66.004  -6.941  1.00  0.37          1SG 487
ATOM    487  CB  ALA    61       8.825  65.293  -5.796  1.00  0.37          1SG 488
ATOM    488  C   ALA    61       9.623  65.065  -8.099  1.00  0.37          1SG 489
ATOM    489  O   ALA    61       8.603  64.547  -8.550  1.00  0.37          1SG 490
ATOM    490  N   THR    62      10.842  64.876  -8.632  1.00  0.56          1SG 491
ATOM    491  CA  THR    62      11.083  64.025  -9.750  1.00  0.56          1SG 492
ATOM    492  CB  THR    62      11.287  64.754 -11.044  1.00  0.56          1SG 493
ATOM    493  OG1 THR    62      12.411  65.617 -10.953  1.00  0.56          1SG 494
ATOM    494  CG2 THR    62      10.016  65.559 -11.364  1.00  0.56          1SG 495
ATOM    495  C   THR    62      12.357  63.334  -9.425  1.00  0.56          1SG 496
ATOM    496  O   THR    62      13.021  63.674  -8.449  1.00  0.56          1SG 497
ATOM    497  N   VAL    63      12.743  62.358 -10.258  1.00  0.52          1SG 498
ATOM    498  CA  VAL    63      13.904  61.569  -9.983  1.00  0.52          1SG 499
ATOM    499  CB  VAL    63      14.189  60.580 -11.080  1.00  0.52          1SG 500
ATOM    500  CG1 VAL    63      13.009  59.597 -11.163  1.00  0.52          1SG 501
ATOM    501  CG2 VAL    63      14.445  61.338 -12.394  1.00  0.52          1SG 502
ATOM    502  C   VAL    63      15.086  62.480  -9.863  1.00  0.52          1SG 503
ATOM    503  O   VAL    63      15.924  62.309  -8.980  1.00  0.52          1SG 504
ATOM    504  N   ASN    64      15.146  63.505 -10.731  1.00  0.32          1SG 505
ATOM    505  CA  ASN    64      16.248  64.419 -10.842  1.00  0.32          1SG 506
ATOM    506  CB  ASN    64      16.078  65.400 -12.013  1.00  0.32          1SG 507
ATOM    507  CG  ASN    64      16.191  64.599 -13.303  1.00  0.32          1SG 508
ATOM    508  OD1 ASN    64      15.323  63.792 -13.630  1.00  0.32          1SG 509
ATOM    509  ND2 ASN    64      17.296  64.827 -14.062  1.00  0.32          1SG 510
ATOM    510  C   ASN    64      16.425  65.225  -9.588  1.00  0.32          1SG 511
ATOM    511  O   ASN    64      17.531  65.680  -9.305  1.00  0.32          1SG 512
ATOM    512  N   ASP    65      15.338  65.442  -8.825  1.00  0.25          1SG 513
ATOM    513  CA  ASP    65      15.318  66.284  -7.655  1.00  0.25          1SG 514
ATOM    514  CB  ASP    65      13.909  66.571  -7.117  1.00  0.25          1SG 515
ATOM    515  CG  ASP    65      13.324  67.671  -7.985  1.00  0.25          1SG 516
ATOM    516  OD1 ASP    65      13.629  67.694  -9.207  1.00  0.25          1SG 517
ATOM    517  OD2 ASP    65      12.581  68.522  -7.428  1.00  0.25          1SG 518
ATOM    518  C   ASP    65      16.143  65.782  -6.505  1.00  0.25          1SG 519
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ATOM    519  O   ASP  65      16.459  66.561  -5.609  1.00  0.25      1SG 520
ATOM    520  N   SER  66      16.465  64.481  -6.423  1.00  0.26      1SG 521
ATOM    521  CA  SER  66      17.211  64.032  -5.275  1.00  0.26      1SG 522
ATOM    522  CB  SER  66      17.558  62.533  -5.309  1.00  0.26      1SG 523
ATOM    523  OG  SER  66      16.372  61.755  -5.255  1.00  0.26      1SG 524
ATOM    524  C   SER  66      18.509  64.781  -5.185  1.00  0.26      1SG 525
ATOM    525  O   SER  66      19.017  65.300  -6.177  1.00  0.26      1SG 526
ATOM    526  N   GLY  67      19.071  64.884  -3.958  1.00  0.35      1SG 527
ATOM    527  CA  GLY  67      20.340  65.543  -3.821  1.00  0.35      1SG 528
ATOM    528  C   GLY  67      20.318  66.412  -2.603  1.00  0.35      1SG 529
ATOM    529  O   GLY  67      19.423  66.318  -1.765  1.00  0.35      1SG 530
ATOM    530  N   GLU  68      21.326  67.300  -2.473  1.00  0.40      1SG 531
ATOM    531  CA  GLU  68      21.354  68.137  -1.311  1.00  0.40      1SG 532
ATOM    532  CB  GLU  68      22.726  68.230  -0.620  1.00  0.40      1SG 533
ATOM    533  CG  GLU  68      23.845  68.792  -1.495  1.00  0.40      1SG 534
ATOM    534  CD  GLU  68      25.108  68.817  -0.647  1.00  0.40      1SG 535
ATOM    535  OE1 GLU  68      25.663  67.720  -0.373  1.00  0.40      1SG 536
ATOM    536  OE2 GLU  68      25.528  69.937  -0.250  1.00  0.40      1SG 537
ATOM    537  C   GLU  68      20.920  69.512  -1.698  1.00  0.40      1SG 538
ATOM    538  O   GLU  68      21.211  69.986  -2.795  1.00  0.40      1SG 539
ATOM    539  N   TYR  69      20.167  70.173  -0.796  1.00  0.34      1SG 540
ATOM    540  CA  TYR  69      19.709  71.508  -1.056  1.00  0.34      1SG 541
ATOM    541  CB  TYR  69      18.186  71.697  -0.940  1.00  0.34      1SG 542
ATOM    542  CG  TYR  69      17.520  71.002  -2.077  1.00  0.34      1SG 543
ATOM    543  CD1 TYR  69      17.280  69.648  -2.029  1.00  0.34      1SG 544
ATOM    544  CD2 TYR  69      17.127  71.715  -3.187  1.00  0.34      1SG 545
ATOM    545  CE1 TYR  69      16.661  69.014  -3.080  1.00  0.34      1SG 546
ATOM    546  CE2 TYR  69      16.507  71.087  -4.240  1.00  0.34      1SG 547
ATOM    547  CZ  TYR  69      16.275  69.733  -4.186  1.00  0.34      1SG 548
ATOM    548  OH  TYR  69      15.639  69.084  -5.265  1.00  0.34      1SG 549
ATOM    549  C   TYR  69      20.315  72.420  -0.037  1.00  0.34      1SG 550
ATOM    550  O   TYR  69      20.468  72.053   1.127  1.00  0.34      1SG 551
ATOM    551  N   ARG  70      20.700  73.640  -0.468  1.00  0.33      1SG 552
ATOM    552  CA  ARG  70      21.233  74.613   0.442  1.00  0.33      1SG 553
ATOM    553  CB  ARG  70      22.767  74.627   0.507  1.00  0.33      1SG 554
ATOM    554  CG  ARG  70      23.309  73.406   1.253  1.00  0.33      1SG 555
ATOM    555  CD  ARG  70      24.830  73.388   1.424  1.00  0.33      1SG 556
ATOM    556  NE  ARG  70      25.431  72.997   0.119  1.00  0.33      1SG 557
ATOM    557  CZ  ARG  70      26.690  72.472   0.081  1.00  0.33      1SG 558
ATOM    558  NH1 ARG  70      27.408  72.344   1.235  1.00  0.33      1SG 559
ATOM    559  NH2 ARG  70      27.226  72.071  -1.108  1.00  0.33      1SG 560
ATOM    560  C   ARG  70      20.752  75.964   0.004  1.00  0.33      1SG 561
ATOM    561  O   ARG  70      20.274  76.125  -1.117  1.00  0.33      1SG 562
ATOM    562  N   CYS  71      20.825  76.972   0.900  1.00  0.26      1SG 563
ATOM    563  CA  CYS  71      20.377  78.289   0.535  1.00  0.26      1SG 564
ATOM    564  CB  CYS  71      18.893  78.555   0.864  1.00  0.26      1SG 565
ATOM    565  SG  CYS  71      18.496  78.615   2.636  1.00  0.26      1SG 566
ATOM    566  C   CYS  71      21.235  79.307   1.221  1.00  0.26      1SG 567
ATOM    567  O   CYS  71      21.949  78.991   2.172  1.00  0.26      1SG 568
ATOM    568  N   GLN  72      21.215  80.559   0.711  1.00  0.14      1SG 569
ATOM    569  CA  GLN  72      22.005  81.615   1.278  1.00  0.14      1SG 570
ATOM    570  CB  GLN  72      23.405  81.712   0.643  1.00  0.14      1SG 571
ATOM    571  CG  GLN  72      24.303  82.785   1.260  1.00  0.14      1SG 572
ATOM    572  CD  GLN  72      25.638  82.750   0.528  1.00  0.14      1SG 573
ATOM    573  OE1 GLN  72      25.792  82.069  -0.485  1.00  0.14      1SG 574
ATOM    574  NE2 GLN  72      26.634  83.512   1.054  1.00  0.14      1SG 575
ATOM    575  C   GLN  72      21.301  82.918   1.026  1.00  0.14      1SG 576
ATOM    576  O   GLN  72      20.515  83.054   0.087  1.00  0.14      1SG 577
ATOM    577  N   THR  73      21.576  83.916   1.892  1.00  0.16      1SG 578
ATOM    578  CA  THR  73      21.012  85.228   1.773  1.00  0.16      1SG 579
ATOM    579  CB  THR  73      20.152  85.599   2.951  1.00  0.16      1SG 580
ATOM    580  OG1 THR  73      19.141  84.620   3.135  1.00  0.16      1SG 581
ATOM    581  CG2 THR  73      19.486  86.959   2.679  1.00  0.16      1SG 582
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ATOM    582  C   THR    73      22.191  86.155   1.737  1.00  0.16      1SG 583
ATOM    583  O   THR    73      23.325  85.730   1.942  1.00  0.16      1SG 584
ATOM    584  N   ASN    74      21.971  87.447   1.435  1.00  0.21      1SG 585
ATOM    585  CA  ASN    74      23.072  88.368   1.377  1.00  0.21      1SG 586
ATOM    586  CB  ASN    74      22.697  89.763   0.849  1.00  0.21      1SG 587
ATOM    587  CG  ASN    74      22.617  89.670  -0.669  1.00  0.21      1SG 588
ATOM    588  OD1 ASN    74      22.270  90.635  -1.348  1.00  0.21      1SG 589
ATOM    589  ND2 ASN    74      22.961  88.475  -1.220  1.00  0.21      1SG 590
ATOM    590  C   ASN    74      23.669  88.525   2.743  1.00  0.21      1SG 591
ATOM    591  O   ASN    74      24.859  88.807   2.867  1.00  0.21      1SG 592
ATOM    592  N   LEU    75      22.825  88.433   3.790  1.00  0.22      1SG 593
ATOM    593  CA  LEU    75      23.180  88.556   5.181  1.00  0.22      1SG 594
ATOM    594  CB  LEU    75      21.987  88.944   6.070  1.00  0.22      1SG 595
ATOM    595  CG  LEU    75      21.434  90.348   5.763  1.00  0.22      1SG 596
ATOM    596  CD2 LEU    75      22.562  91.388   5.672  1.00  0.22      1SG 597
ATOM    597  CD1 LEU    75      20.333  90.745   6.759  1.00  0.22      1SG 598
ATOM    598  C   LEU    75      23.804  87.324   5.785  1.00  0.22      1SG 599
ATOM    599  O   LEU    75      24.481  87.437   6.802  1.00  0.22      1SG 600
ATOM    600  N   SER    76      23.574  86.107   5.251  1.00  0.32      1SG 601
ATOM    601  CA  SER    76      24.037  84.956   5.989  1.00  0.32      1SG 602
ATOM    602  CB  SER    76      22.883  84.027   6.399  1.00  0.32      1SG 603
ATOM    603  OG  SER    76      22.213  83.551   5.240  1.00  0.32      1SG 604
ATOM    604  C   SER    76      25.017  84.125   5.215  1.00  0.32      1SG 605
ATOM    605  O   SER    76      25.282  84.360   4.038  1.00  0.32      1SG 606
ATOM    606  N   THR    77      25.634  83.142   5.909  1.00  0.43      1SG 607
ATOM    607  CA  THR    77      26.525  82.222   5.261  1.00  0.43      1SG 608
ATOM    608  CB  THR    77      27.567  81.655   6.174  1.00  0.43      1SG 609
ATOM    609  OG1 THR    77      26.955  80.928   7.228  1.00  0.43      1SG 610
ATOM    610  CG2 THR    77      28.385  82.825   6.745  1.00  0.43      1SG 611
ATOM    611  C   THR    77      25.663  81.111   4.734  1.00  0.43      1SG 612
ATOM    612  O   THR    77      24.471  81.058   5.032  1.00  0.43      1SG 613
ATOM    613  N   LEU    78      26.241  80.196   3.928  1.00  0.27      1SG 614
ATOM    614  CA  LEU    78      25.474  79.156   3.293  1.00  0.27      1SG 615
ATOM    615  CB  LEU    78      26.307  78.312   2.309  1.00  0.27      1SG 616
ATOM    616  CG  LEU    78      25.499  77.245   1.545  1.00  0.27      1SG 617
ATOM    617  CD2 LEU    78      26.425  76.234   0.850  1.00  0.27      1SG 618
ATOM    618  CD1 LEU    78      24.498  77.891   0.572  1.00  0.27      1SG 619
ATOM    619  C   LEU    78      24.920  78.243   4.345  1.00  0.27      1SG 620
ATOM    620  O   LEU    78      25.581  77.931   5.333  1.00  0.27      1SG 621
ATOM    621  N   SER    79      23.667  77.783   4.149  1.00  0.11      1SG 622
ATOM    622  CA  SER    79      23.037  76.937   5.124  1.00  0.11      1SG 623
ATOM    623  CB  SER    79      21.513  76.815   4.955  1.00  0.11      1SG 624
ATOM    624  OG  SER    79      21.213  76.083   3.776  1.00  0.11      1SG 625
ATOM    625  C   SER    79      23.595  75.557   5.010  1.00  0.11      1SG 626
ATOM    626  O   SER    79      24.203  75.200   4.001  1.00  0.11      1SG 627
ATOM    627  N   ASP    80      23.417  74.752   6.079  1.00  0.14      1SG 628
ATOM    628  CA  ASP    80      23.841  73.383   6.047  1.00  0.14      1SG 629
ATOM    629  CB  ASP    80      23.747  72.664   7.406  1.00  0.14      1SG 630
ATOM    630  CG  ASP    80      24.820  73.215   8.338  1.00  0.14      1SG 631
ATOM    631  OD1 ASP    80      25.741  73.920   7.845  1.00  0.14      1SG 632
ATOM    632  OD2 ASP    80      24.733  72.931   9.562  1.00  0.14      1SG 633
ATOM    633  C   ASP    80      22.908  72.703   5.097  1.00  0.14      1SG 634
ATOM    634  O   ASP    80      21.786  73.158   4.880  1.00  0.14      1SG 635
ATOM    635  N   PRO    81      23.361  71.635   4.504  1.00  0.17      1SG 636
ATOM    636  CA  PRO    81      22.566  70.959   3.515  1.00  0.17      1SG 637
ATOM    637  CD  PRO    81      24.783  71.457   4.267  1.00  0.17      1SG 638
ATOM    638  CB  PRO    81      23.545  70.174   2.637  1.00  0.17      1SG 639
ATOM    639  CG  PRO    81      24.867  70.176   3.423  1.00  0.17      1SG 640
ATOM    640  C   PRO    81      21.445  70.127   4.045  1.00  0.17      1SG 641
ATOM    641  O   PRO    81      21.508  69.669   5.185  1.00  0.17      1SG 642
ATOM    642  N   VAL    82      20.396  69.960   3.216  1.00  0.16      1SG 643
ATOM    643  CA  VAL    82      19.285  69.101   3.498  1.00  0.16      1SG 644
ATOM    644  CB  VAL    82      17.966  69.817   3.475  1.00  0.16      1SG 645
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ATOM    645  CG1 VAL    82      16.840  68.794   3.699  1.00  0.16      1SG 646
ATOM    646  CG2 VAL    82      18.008  70.940   4.524  1.00  0.16      1SG 647
ATOM    647  C   VAL    82      19.286  68.130   2.359  1.00  0.16      1SG 648
ATOM    648  O   VAL    82      19.289  68.539   1.198  1.00  0.16      1SG 649
ATOM    649  N   GLN    83      19.288  66.815   2.656  1.00  0.14      1SG 650
ATOM    650  CA  GLN    83      19.369  65.853   1.595  1.00  0.14      1SG 651
ATOM    651  CB  GLN    83      20.289  64.661   1.909  1.00  0.14      1SG 652
ATOM    652  CG  GLN    83      20.361  63.653   0.761  1.00  0.14      1SG 653
ATOM    653  CD  GLN    83      21.289  62.516   1.166  1.00  0.14      1SG 654
ATOM    654  OE1 GLN    83      21.088  61.372   0.761  1.00  0.14      1SG 655
ATOM    655  NE2 GLN    83      22.329  62.832   1.983  1.00  0.14      1SG 656
ATOM    656  C   GLN    83      18.000  65.310   1.325  1.00  0.14      1SG 657
ATOM    657  O   GLN    83      17.266  64.946   2.241  1.00  0.14      1SG 658
ATOM    658  N   LEU    84      17.623  65.249   0.031  1.00  0.13      1SG 659
ATOM    659  CA  LEU    84      16.313  64.773  -0.309  1.00  0.13      1SG 660
ATOM    660  CB  LEU    84      15.463  65.842  -1.024  1.00  0.13      1SG 661
ATOM    661  CG  LEU    84      14.045  65.379  -1.404  1.00  0.13      1SG 662
ATOM    662  CD2 LEU    84      13.376  66.379  -2.362  1.00  0.13      1SG 663
ATOM    663  CD1 LEU    84      13.193  65.093  -0.157  1.00  0.13      1SG 664
ATOM    664  C   LEU    84      16.463  63.601  -1.234  1.00  0.13      1SG 665
ATOM    665  O   LEU    84      17.358  63.578  -2.077  1.00  0.13      1SG 666
ATOM    666  N   GLU    85      15.609  62.565  -1.067  1.00  0.13      1SG 667
ATOM    667  CA  GLU    85      15.659  61.442  -1.962  1.00  0.13      1SG 668
ATOM    668  CB  GLU    85      16.128  60.122  -1.323  1.00  0.13      1SG 669
ATOM    669  CG  GLU    85      17.623  60.111  -0.993  1.00  0.13      1SG 670
ATOM    670  CD  GLU    85      18.029  58.680  -0.673  1.00  0.13      1SG 671
ATOM    671  OE1 GLU    85      17.391  58.068   0.224  1.00  0.13      1SG 672
ATOM    672  OE2 GLU    85      18.980  58.178  -1.330  1.00  0.13      1SG 673
ATOM    673  C   GLU    85      14.284  61.216  -2.512  1.00  0.13      1SG 674
ATOM    674  O   GLU    85      13.323  61.034  -1.765  1.00  0.13      1SG 675
ATOM    675  N   VAL    86      14.161  61.211  -3.855  1.00  0.18      1SG 676
ATOM    676  CA  VAL    86      12.880  61.025  -4.470  1.00  0.18      1SG 677
ATOM    677  CB  VAL    86      12.628  61.986  -5.593  1.00  0.18      1SG 678
ATOM    678  CG1 VAL    86      11.244  61.699  -6.195  1.00  0.18      1SG 679
ATOM    679  CG2 VAL    86      12.774  63.413  -5.038  1.00  0.18      1SG 680
ATOM    680  C   VAL    86      12.831  59.631  -5.014  1.00  0.18      1SG 681
ATOM    681  O   VAL    86      13.746  59.188  -5.708  1.00  0.18      1SG 682
ATOM    682  N   HIS    87      11.743  58.893  -4.710  1.00  0.34      1SG 683
ATOM    683  CA  HIS    87      11.681  57.522  -5.133  1.00  0.34      1SG 684
ATOM    684  ND1 HIS    87      13.107  57.437  -2.117  1.00  0.34      1SG 685
ATOM    685  CG  HIS    87      12.856  56.525  -3.119  1.00  0.34      1SG 686
ATOM    686  CB  HIS    87      11.614  56.524  -3.963  1.00  0.34      1SG 687
ATOM    687  NE2 HIS    87      14.860  56.069  -2.186  1.00  0.34      1SG 688
ATOM    688  CD2 HIS    87      13.936  55.697  -3.147  1.00  0.34      1SG 689
ATOM    689  CE1 HIS    87      14.318  57.118  -1.593  1.00  0.34      1SG 690
ATOM    690  C   HIS    87      10.467  57.302  -5.978  1.00  0.34      1SG 691
ATOM    691  O   HIS    87       9.539  58.109  -5.995  1.00  0.34      1SG 692
ATOM    692  N   ILE    88      10.485  56.205  -6.762  1.00  0.38      1SG 693
ATOM    693  CA  ILE    88       9.339  55.850  -7.542  1.00  0.38      1SG 694
ATOM    694  CB  ILE    88       9.605  55.807  -9.024  1.00  0.38      1SG 695
ATOM    695  CG2 ILE    88      10.824  54.912  -9.310  1.00  0.38      1SG 696
ATOM    696  CG1 ILE    88       8.323  55.418  -9.776  1.00  0.38      1SG 697
ATOM    697  CD1 ILE    88       8.409  55.623 -11.288  1.00  0.38      1SG 698
ATOM    698  C   ILE    88       8.899  54.495  -7.072  1.00  0.38      1SG 699
ATOM    699  O   ILE    88       9.501  53.472  -7.396  1.00  0.38      1SG 700
ATOM    700  N   GLY    89       7.809  54.464  -6.281  1.00  0.20      1SG 701
ATOM    701  CA  GLY    89       7.304  53.227  -5.757  1.00  0.20      1SG 702
ATOM    702  C   GLY    89       5.901  53.499  -5.315  1.00  0.20      1SG 703
ATOM    703  O   GLY    89       5.512  54.651  -5.141  1.00  0.20      1SG 704
ATOM    704  N   TRP    90       5.094  52.434  -5.147  1.00  0.12      1SG 705
ATOM    705  CA  TRP    90       3.723  52.586  -4.750  1.00  0.12      1SG 706
ATOM    706  CB  TRP    90       2.880  51.313  -4.922  1.00  0.12      1SG 707
ATOM    707  CG  TRP    90       2.518  51.031  -6.358  1.00  0.12      1SG 708
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ATOM	708	CD2	TRP	90	1.448	51.700	-7.042	1.00	0.12	1SG	709
ATOM	709	CD1	TRP	90	3.076	50.170	-7.258	1.00	0.12	1SG	710
ATOM	710	NE1	TRP	90	2.414	50.255	-8.460	1.00	0.12	1SG	711
ATOM	711	CE2	TRP	90	1.410	51.195	-8.341	1.00	0.12	1SG	712
ATOM	712	CE3	TRP	90	0.569	52.657	-6.619	1.00	0.12	1SG	713
ATOM	713	CZ2	TRP	90	0.486	51.642	-9.241	1.00	0.12	1SG	714
ATOM	714	CZ3	TRP	90	-0.361	53.107	-7.529	1.00	0.12	1SG	715
ATOM	715	CH2	TRP	90	-0.400	52.608	-8.815	1.00	0.12	1SG	716
ATOM	716	C	TRP	90	3.580	53.037	-3.324	1.00	0.12	1SG	717
ATOM	717	O	TRP	90	2.663	53.800	-3.022	1.00	0.12	1SG	718
ATOM	718	N	LEU	91	4.446	52.560	-2.403	1.00	0.26	1SG	719
ATOM	719	CA	LEU	91	4.266	52.905	-1.015	1.00	0.26	1SG	720
ATOM	720	CB	LEU	91	3.562	51.776	-0.239	1.00	0.26	1SG	721
ATOM	721	CG	LEU	91	3.157	52.126	1.203	1.00	0.26	1SG	722
ATOM	722	CD2	LEU	91	2.734	50.869	1.981	1.00	0.26	1SG	723
ATOM	723	CD1	LEU	91	2.079	53.222	1.222	1.00	0.26	1SG	724
ATOM	724	C	LEU	91	5.614	53.138	-0.385	1.00	0.26	1SG	725
ATOM	725	O	LEU	91	6.577	52.431	-0.677	1.00	0.26	1SG	726
ATOM	726	N	LEU	92	5.719	54.138	0.522	1.00	0.38	1SG	727
ATOM	727	CA	LEU	92	6.998	54.439	1.103	1.00	0.38	1SG	728
ATOM	728	CB	LEU	92	7.560	55.735	0.473	1.00	0.38	1SG	729
ATOM	729	CG	LEU	92	9.071	56.015	0.609	1.00	0.38	1SG	730
ATOM	730	CD2	LEU	92	9.558	55.970	2.057	1.00	0.38	1SG	731
ATOM	731	CD1	LEU	92	9.434	57.344	-0.076	1.00	0.38	1SG	732
ATOM	732	C	LEU	92	6.810	54.634	2.588	1.00	0.38	1SG	733
ATOM	733	O	LEU	92	5.768	55.108	3.043	1.00	0.38	1SG	734
ATOM	734	N	LEU	93	7.804	54.221	3.402	1.00	0.28	1SG	735
ATOM	735	CA	LEU	93	7.741	54.488	4.812	1.00	0.28	1SG	736
ATOM	736	CB	LEU	93	8.385	53.414	5.695	1.00	0.28	1SG	737
ATOM	737	CG	LEU	93	8.272	53.774	7.184	1.00	0.28	1SG	738
ATOM	738	CD2	LEU	93	9.357	53.085	8.018	1.00	0.28	1SG	739
ATOM	739	CD1	LEU	93	6.842	53.566	7.705	1.00	0.28	1SG	740
ATOM	740	C	LEU	93	8.566	55.725	5.002	1.00	0.28	1SG	741
ATOM	741	O	LEU	93	9.775	55.710	4.770	1.00	0.28	1SG	742
ATOM	742	N	GLN	94	7.949	56.830	5.464	1.00	0.17	1SG	743
ATOM	743	CA	GLN	94	8.665	58.079	5.487	1.00	0.17	1SG	744
ATOM	744	CB	GLN	94	7.823	59.244	4.936	1.00	0.17	1SG	745
ATOM	745	CG	GLN	94	7.457	59.079	3.456	1.00	0.17	1SG	746
ATOM	746	CD	GLN	94	6.482	60.183	3.068	1.00	0.17	1SG	747
ATOM	747	OE1	GLN	94	5.403	60.300	3.646	1.00	0.17	1SG	748
ATOM	748	NE2	GLN	94	6.867	61.016	2.063	1.00	0.17	1SG	749
ATOM	749	C	GLN	94	9.119	58.445	6.869	1.00	0.17	1SG	750
ATOM	750	O	GLN	94	8.489	58.092	7.864	1.00	0.17	1SG	751
ATOM	751	N	ALA	95	10.270	59.157	6.949	1.00	0.22	1SG	752
ATOM	752	CA	ALA	95	10.807	59.602	8.209	1.00	0.22	1SG	753
ATOM	753	CB	ALA	95	11.868	58.652	8.789	1.00	0.22	1SG	754
ATOM	754	C	ALA	95	11.466	60.944	8.020	1.00	0.22	1SG	755
ATOM	755	O	ALA	95	11.923	61.281	6.929	1.00	0.22	1SG	756
ATOM	756	N	PRO	96	11.450	61.752	9.055	1.00	0.32	1SG	757
ATOM	757	CA	PRO	96	12.110	63.037	9.060	1.00	0.32	1SG	758
ATOM	758	CD	PRO	96	10.425	61.656	10.079	1.00	0.32	1SG	759
ATOM	759	CB	PRO	96	11.422	63.855	10.153	1.00	0.32	1SG	760
ATOM	760	CG	PRO	96	10.741	62.805	11.048	1.00	0.32	1SG	761
ATOM	761	C	PRO	96	13.591	62.923	9.280	1.00	0.32	1SG	762
ATOM	762	O	PRO	96	14.314	63.852	8.921	1.00	0.32	1SG	763
ATOM	763	N	ARG	97	14.065	61.820	9.898	1.00	0.53	1SG	764
ATOM	764	CA	ARG	97	15.473	61.698	10.174	1.00	0.53	1SG	765
ATOM	765	CB	ARG	97	15.898	62.263	11.541	1.00	0.53	1SG	766
ATOM	766	CG	ARG	97	15.826	63.783	11.675	1.00	0.53	1SG	767
ATOM	767	CD	ARG	97	16.303	64.269	13.047	1.00	0.53	1SG	768
ATOM	768	NE	ARG	97	16.192	65.754	13.073	1.00	0.53	1SG	769
ATOM	769	CZ	ARG	97	16.441	66.436	14.229	1.00	0.53	1SG	770
ATOM	770	NH1	ARG	97	16.772	65.759	15.367	1.00	0.53	1SG	771

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ATOM    771  NH2 ARG    97      16.358  67.798  14.244  1.00  0.53        1SG 772
ATOM    772  C   ARG    97      15.838  60.245  10.235  1.00  0.53        1SG 773
ATOM    773  O   ARG    97      14.998  59.389  10.508  1.00  0.53        1SG 774
ATOM    774  N   TRP    98      17.112  59.947   9.899  1.00  0.63        1SG 775
ATOM    775  CA  TRP    98      17.708  58.639   9.981  1.00  0.63        1SG 776
ATOM    776  CB  TRP    98      19.044  58.563   9.225  1.00  0.63        1SG 777
ATOM    777  CG  TRP    98      18.963  58.722   7.727  1.00  0.63        1SG 778
ATOM    778  CD2 TRP    98      19.073  57.635   6.796  1.00  0.63        1SG 779
ATOM    779  CD1 TRP    98      18.829  59.858   6.982  1.00  0.63        1SG 780
ATOM    780  NE1 TRP    98      18.849  59.546   5.644  1.00  0.63        1SG 781
ATOM    781  CE2 TRP    98      19.000  58.181   5.515  1.00  0.63        1SG 782
ATOM    782  CE3 TRP    98      19.231  56.293   6.993  1.00  0.63        1SG 783
ATOM    783  CZ2 TRP    98      19.083  57.388   4.406  1.00  0.63        1SG 784
ATOM    784  CZ3 TRP    98      19.308  55.495   5.873  1.00  0.63        1SG 785
ATOM    785  CH2 TRP    98      19.235  56.033   4.604  1.00  0.63        1SG 786
ATOM    786  C   TRP    98      18.054  58.309  11.401  1.00  0.63        1SG 787
ATOM    787  O   TRP    98      17.880  57.176  11.851  1.00  0.63        1SG 788
ATOM    788  N   VAL    99      18.595  59.298  12.142  1.00  0.34        1SG 789
ATOM    789  CA  VAL    99      19.048  59.025  13.477  1.00  0.34        1SG 790
ATOM    790  CB  VAL    99      20.524  59.219  13.662  1.00  0.34        1SG 791
ATOM    791  CG1 VAL    99      20.863  58.957  15.139  1.00  0.34        1SG 792
ATOM    792  CG2 VAL    99      21.271  58.304  12.676  1.00  0.34        1SG 793
ATOM    793  C   VAL    99      18.367  59.959  14.419  1.00  0.34        1SG 794
ATOM    794  O   VAL    99      18.049  61.095  14.072  1.00  0.34        1SG 795
ATOM    795  N   PHE   100      18.120  59.475  15.651  1.00  0.22        1SG 796
ATOM    796  CA  PHE   100      17.482  60.261  16.666  1.00  0.22        1SG 797
ATOM    797  CB  PHE   100      16.050  59.805  17.011  1.00  0.22        1SG 798
ATOM    798  CG  PHE   100      15.147  60.050  15.850  1.00  0.22        1SG 799
ATOM    799  CD1 PHE   100      15.045  59.126  14.835  1.00  0.22        1SG 800
ATOM    800  CD2 PHE   100      14.393  61.200  15.781  1.00  0.22        1SG 801
ATOM    801  CE1 PHE   100      14.210  59.348  13.765  1.00  0.22        1SG 802
ATOM    802  CE2 PHE   100      13.557  61.428  14.714  1.00  0.22        1SG 803
ATOM    803  CZ  PHE   100      13.464  60.501  13.704  1.00  0.22        1SG 804
ATOM    804  C   PHE   100      18.269  60.096  17.929  1.00  0.22        1SG 805
ATOM    805  O   PHE   100      19.106  59.202  18.044  1.00  0.22        1SG 806
ATOM    806  N   LYS   101      18.022  60.982  18.914  1.00  0.37        1SG 807
ATOM    807  CA  LYS   101      18.685  60.871  20.179  1.00  0.37        1SG 808
ATOM    808  CB  LYS   101      19.121  62.219  20.781  1.00  0.37        1SG 809
ATOM    809  CG  LYS   101      20.001  62.084  22.025  1.00  0.37        1SG 810
ATOM    810  CD  LYS   101      20.705  63.381  22.431  1.00  0.37        1SG 811
ATOM    811  CE  LYS   101      21.583  63.228  23.674  1.00  0.37        1SG 812
ATOM    812  NZ  LYS   101      20.740  62.951  24.858  1.00  0.37        1SG 813
ATOM    813  C   LYS   101      17.693  60.252  21.105  1.00  0.37        1SG 814
ATOM    814  O   LYS   101      16.495  60.245  20.827  1.00  0.37        1SG 815
ATOM    815  N   GLU   102      18.163  59.687  22.231  1.00  0.39        1SG 816
ATOM    816  CA  GLU   102      17.220  59.044  23.095  1.00  0.39        1SG 817
ATOM    817  CB  GLU   102      17.844  58.321  24.301  1.00  0.39        1SG 818
ATOM    818  CG  GLU   102      16.843  57.503  25.120  1.00  0.39        1SG 819
ATOM    819  CD  GLU   102      17.615  56.757  26.198  1.00  0.39        1SG 820
ATOM    820  OE1 GLU   102      18.311  57.431  27.003  1.00  0.39        1SG 821
ATOM    821  OE2 GLU   102      17.521  55.500  26.228  1.00  0.39        1SG 822
ATOM    822  C   GLU   102      16.283  60.078  23.620  1.00  0.39        1SG 823
ATOM    823  O   GLU   102      16.670  61.220  23.867  1.00  0.39        1SG 824
ATOM    824  N   GLU   103      15.011  59.670  23.799  1.00  0.36        1SG 825
ATOM    825  CA  GLU   103      13.964  60.488  24.342  1.00  0.36        1SG 826
ATOM    826  CB  GLU   103      14.455  61.396  25.484  1.00  0.36        1SG 827
ATOM    827  CG  GLU   103      13.329  62.144  26.202  1.00  0.36        1SG 828
ATOM    828  CD  GLU   103      13.884  62.673  27.516  1.00  0.36        1SG 829
ATOM    829  OE1 GLU   103      14.575  63.727  27.492  1.00  0.36        1SG 830
ATOM    830  OE2 GLU   103      13.629  62.021  28.564  1.00  0.36        1SG 831
ATOM    831  C   GLU   103      13.304  61.337  23.292  1.00  0.36        1SG 832
ATOM    832  O   GLU   103      12.292  61.973  23.577  1.00  0.36        1SG 833
ATOM    833  N   ASP   104      13.805  61.348  22.040  1.00  0.43        1SG 834
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ATOM    834  CA  ASP   104      13.164  62.158  21.035  1.00  0.43      1SG 835
ATOM    835  CB  ASP   104      14.062  62.472  19.824  1.00  0.43      1SG 836
ATOM    836  CG  ASP   104      15.128  63.467  20.261  1.00  0.43      1SG 837
ATOM    837  OD1 ASP   104      14.791  64.371  21.072  1.00  0.43      1SG 838
ATOM    838  OD2 ASP   104      16.289  63.343  19.786  1.00  0.43      1SG 839
ATOM    839  C   ASP   104      11.960  61.429  20.519  1.00  0.43      1SG 840
ATOM    840  O   ASP   104      11.861  60.207  20.619  1.00  0.43      1SG 841
ATOM    841  N   PRO   105      11.000  62.175  20.031  1.00  0.49      1SG 842
ATOM    842  CA  PRO   105       9.848  61.540  19.444  1.00  0.49      1SG 843
ATOM    843  CD  PRO   105      10.635  63.393  20.738  1.00  0.49      1SG 844
ATOM    844  CB  PRO   105       8.700  62.541  19.551  1.00  0.49      1SG 845
ATOM    845  CG  PRO   105       9.098  63.424  20.745  1.00  0.49      1SG 846
ATOM    846  C   PRO   105      10.124  61.111  18.035  1.00  0.49      1SG 847
ATOM    847  O   PRO   105      10.660  61.908  17.264  1.00  0.49      1SG 848
ATOM    848  N   ILE   106       9.727  59.883  17.652  1.00  0.36      1SG 849
ATOM    849  CA  ILE   106       9.943  59.473  16.295  1.00  0.36      1SG 850
ATOM    850  CB  ILE   106      10.523  58.093  16.165  1.00  0.36      1SG 851
ATOM    851  CG2 ILE   106      10.559  57.725  14.672  1.00  0.36      1SG 852
ATOM    852  CG1 ILE   106      11.905  58.028  16.839  1.00  0.36      1SG 853
ATOM    853  CD1 ILE   106      12.457  56.609  16.964  1.00  0.36      1SG 854
ATOM    854  C   ILE   106       8.601  59.479  15.637  1.00  0.36      1SG 855
ATOM    855  O   ILE   106       7.648  58.886  16.143  1.00  0.36      1SG 856
ATOM    856  N   HIS   107       8.487  60.185  14.495  1.00  0.24      1SG 857
ATOM    857  CA  HIS   107       7.250  60.266  13.772  1.00  0.24      1SG 858
ATOM    858  ND1 HIS   107       5.419  61.664  11.375  1.00  0.24      1SG 859
ATOM    859  CG  HIS   107       5.521  61.800  12.741  1.00  0.24      1SG 860
ATOM    860  CB  HIS   107       6.811  61.712  13.496  1.00  0.24      1SG 861
ATOM    861  NE2 HIS   107       3.359  62.008  12.134  1.00  0.24      1SG 862
ATOM    862  CD2 HIS   107       4.254  62.011  13.189  1.00  0.24      1SG 863
ATOM    863  CE1 HIS   107       4.105  61.797  11.065  1.00  0.24      1SG 864
ATOM    864  C   HIS   107       7.455  59.623  12.437  1.00  0.24      1SG 865
ATOM    865  O   HIS   107       8.426  59.919  11.743  1.00  0.24      1SG 866
ATOM    866  N   LEU   108       6.532  58.728  12.034  1.00  0.32      1SG 867
ATOM    867  CA  LEU   108       6.678  58.051  10.776  1.00  0.32      1SG 868
ATOM    868  CB  LEU   108       7.053  56.568  10.922  1.00  0.32      1SG 869
ATOM    869  CG  LEU   108       8.401  56.337  11.629  1.00  0.32      1SG 870
ATOM    870  CD2 LEU   108       9.528  57.138  10.963  1.00  0.32      1SG 871
ATOM    871  CD1 LEU   108       8.722  54.838  11.741  1.00  0.32      1SG 872
ATOM    872  C   LEU   108       5.365  58.089  10.057  1.00  0.32      1SG 873
ATOM    873  O   LEU   108       4.317  58.287  10.669  1.00  0.32      1SG 874
ATOM    874  N   ARG   109       5.391  57.926   8.715  1.00  0.56      1SG 875
ATOM    875  CA  ARG   109       4.152  57.926   7.992  1.00  0.56      1SG 876
ATOM    876  CB  ARG   109       3.759  59.308   7.445  1.00  0.56      1SG 877
ATOM    877  CG  ARG   109       2.437  59.292   6.678  1.00  0.56      1SG 878
ATOM    878  CD  ARG   109       1.919  60.679   6.297  1.00  0.56      1SG 879
ATOM    879  NE  ARG   109       2.988  61.367   5.522  1.00  0.56      1SG 880
ATOM    880  CZ  ARG   109       2.734  61.825   4.262  1.00  0.56      1SG 881
ATOM    881  NH1 ARG   109       1.540  61.554   3.664  1.00  0.56      1SG 882
ATOM    882  NH2 ARG   109       3.674  62.558   3.597  1.00  0.56      1SG 883
ATOM    883  C   ARG   109       4.246  56.981   6.835  1.00  0.56      1SG 884
ATOM    884  O   ARG   109       5.286  56.856   6.190  1.00  0.56      1SG 885
ATOM    885  N   CYS   110       3.129  56.286   6.547  1.00  0.57      1SG 886
ATOM    886  CA  CYS   110       3.049  55.357   5.458  1.00  0.57      1SG 887
ATOM    887  CB  CYS   110       2.169  54.160   5.827  1.00  0.57      1SG 888
ATOM    888  SG  CYS   110       2.263  52.785   4.659  1.00  0.57      1SG 889
ATOM    889  C   CYS   110       2.373  56.124   4.366  1.00  0.57      1SG 890
ATOM    890  O   CYS   110       1.224  56.532   4.524  1.00  0.57      1SG 891
ATOM    891  N   HIS   111       3.069  56.339   3.228  1.00  0.38      1SG 892
ATOM    892  CA  HIS   111       2.538  57.210   2.212  1.00  0.38      1SG 893
ATOM    893  ND1 HIS   111       3.845  59.725  -0.098  1.00  0.38      1SG 894
ATOM    894  CG  HIS   111       3.026  59.397   0.958  1.00  0.38      1SG 895
ATOM    895  CB  HIS   111       3.431  58.454   2.048  1.00  0.38      1SG 896
ATOM    896  NE2 HIS   111       1.950  60.848  -0.391  1.00  0.38      1SG 897
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ATOM    897  CD2 HIS   111       1.872  60.091   0.765  1.00  0.38      1SG 898
ATOM    898  CE1 HIS   111       3.153  60.597  -0.874  1.00  0.38      1SG 899
ATOM    899  C   HIS   111       2.419  56.523   0.884  1.00  0.38      1SG 900
ATOM    900  O   HIS   111       3.335  55.837   0.435  1.00  0.38      1SG 901
ATOM    901  N   SER   112       1.273  56.736   0.198  1.00  0.32      1SG 902
ATOM    902  CA  SER   112       1.044  56.101  -1.070  1.00  0.32      1SG 903
ATOM    903  CB  SER   112      -0.389  55.569  -1.218  1.00  0.32      1SG 904
ATOM    904  OG  SER   112      -0.492  54.787  -2.396  1.00  0.32      1SG 905
ATOM    905  C   SER   112       1.307  57.088  -2.172  1.00  0.32      1SG 906
ATOM    906  O   SER   112       1.242  58.302  -1.980  1.00  0.32      1SG 907
ATOM    907  N   TRP   113       1.638  56.569  -3.372  1.00  0.30      1SG 908
ATOM    908  CA  TRP   113       1.963  57.399  -4.497  1.00  0.30      1SG 909
ATOM    909  CB  TRP   113       2.495  56.585  -5.697  1.00  0.30      1SG 910
ATOM    910  CG  TRP   113       2.901  57.379  -6.919  1.00  0.30      1SG 911
ATOM    911  CD2 TRP   113       2.390  57.139  -8.240  1.00  0.30      1SG 912
ATOM    912  CD1 TRP   113       3.833  58.368  -7.040  1.00  0.30      1SG 913
ATOM    913  NE1 TRP   113       3.923  58.771  -8.351  1.00  0.30      1SG 914
ATOM    914  CE2 TRP   113       3.046  58.019  -9.102  1.00  0.30      1SG 915
ATOM    915  CE3 TRP   113       1.459  56.252  -8.700  1.00  0.30      1SG 916
ATOM    916  CZ2 TRP   113       2.778  58.026 -10.441  1.00  0.30      1SG 917
ATOM    917  CZ3 TRP   113       1.187  56.267 -10.050  1.00  0.30      1SG 918
ATOM    918  CH2 TRP   113       1.834  57.138 -10.903  1.00  0.30      1SG 919
ATOM    919  C   TRP   113       0.745  58.163  -4.905  1.00  0.30      1SG 920
ATOM    920  O   TRP   113      -0.351  57.617  -5.020  1.00  0.30      1SG 921
ATOM    921  N   LYS   114       0.922  59.482  -5.109  1.00  0.27      1SG 922
ATOM    922  CA  LYS   114      -0.135  60.350  -5.539  1.00  0.27      1SG 923
ATOM    923  CB  LYS   114      -0.677  59.986  -6.931  1.00  0.27      1SG 924
ATOM    924  CG  LYS   114       0.364  60.164  -8.037  1.00  0.27      1SG 925
ATOM    925  CD  LYS   114      -0.039  59.543  -9.375  1.00  0.27      1SG 926
ATOM    926  CE  LYS   114      -0.974  60.429 -10.198  1.00  0.27      1SG 927
ATOM    927  NZ  LYS   114      -1.297  59.768 -11.480  1.00  0.27      1SG 928
ATOM    928  C   LYS   114      -1.266  60.310  -4.557  1.00  0.27      1SG 929
ATOM    929  O   LYS   114      -2.398  60.652  -4.895  1.00  0.27      1SG 930
ATOM    930  N   ASN   115      -0.981  59.925  -3.300  1.00  0.32      1SG 931
ATOM    931  CA  ASN   115      -1.970  59.921  -2.258  1.00  0.32      1SG 932
ATOM    932  CB  ASN   115      -2.435  61.333  -1.858  1.00  0.32      1SG 933
ATOM    933  CG  ASN   115      -1.305  61.990  -1.078  1.00  0.32      1SG 934
ATOM    934  OD1 ASN   115      -0.700  61.364  -0.209  1.00  0.32      1SG 935
ATOM    935  ND2 ASN   115      -1.011  63.280  -1.391  1.00  0.32      1SG 936
ATOM    936  C   ASN   115      -3.177  59.118  -2.626  1.00  0.32      1SG 937
ATOM    937  O   ASN   115      -4.302  59.534  -2.353  1.00  0.32      1SG 938
ATOM    938  N   THR   116      -2.997  57.932  -3.236  1.00  0.37      1SG 939
ATOM    939  CA  THR   116      -4.165  57.141  -3.495  1.00  0.37      1SG 940
ATOM    940  CB  THR   116      -3.909  55.918  -4.321  1.00  0.37      1SG 941
ATOM    941  OG1 THR   116      -5.135  55.293  -4.672  1.00  0.37      1SG 942
ATOM    942  CG2 THR   116      -3.039  54.961  -3.497  1.00  0.37      1SG 943
ATOM    943  C   THR   116      -4.668  56.703  -2.156  1.00  0.37      1SG 944
ATOM    944  O   THR   116      -3.888  56.517  -1.222  1.00  0.37      1SG 945
ATOM    945  N   ALA   117      -5.996  56.517  -2.030  1.00  0.24      1SG 946
ATOM    946  CA  ALA   117      -6.570  56.202  -0.752  1.00  0.24      1SG 947
ATOM    947  CB  ALA   117      -8.090  55.960  -0.804  1.00  0.24      1SG 948
ATOM    948  C   ALA   117      -5.923  54.971  -0.212  1.00  0.24      1SG 949
ATOM    949  O   ALA   117      -5.750  53.980  -0.917  1.00  0.24      1SG 950
ATOM    950  N   LEU   118      -5.541  55.021   1.081  1.00  0.13      1SG 951
ATOM    951  CA  LEU   118      -4.872  53.905   1.683  1.00  0.13      1SG 952
ATOM    952  CB  LEU   118      -3.382  54.199   1.945  1.00  0.13      1SG 953
ATOM    953  CG  LEU   118      -2.589  53.047   2.592  1.00  0.13      1SG 954
ATOM    954  CD2 LEU   118      -1.222  53.539   3.100  1.00  0.13      1SG 955
ATOM    955  CD1 LEU   118      -2.468  51.846   1.644  1.00  0.13      1SG 956
ATOM    956  C   LEU   118      -5.514  53.602   3.006  1.00  0.13      1SG 957
ATOM    957  O   LEU   118      -5.848  54.502   3.774  1.00  0.13      1SG 958
ATOM    958  N   HIS   119      -5.714  52.300   3.301  1.00  0.15      1SG 959
ATOM    959  CA  HIS   119      -6.265  51.906   4.567  1.00  0.15      1SG 960
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ATOM    960  ND1 HIS   119      -8.820  53.706   5.627  1.00  0.15        1SG  961
ATOM    961  CG  HIS   119      -8.548  52.949   4.510  1.00  0.15        1SG  962
ATOM    962  CB  HIS   119      -7.782  51.660   4.549  1.00  0.15        1SG  963
ATOM    963  NE2 HIS   119      -9.697  54.792   3.897  1.00  0.15        1SG  964
ATOM    964  CD2 HIS   119      -9.091  53.626   3.461  1.00  0.15        1SG  965
ATOM    965  CE1 HIS   119      -9.508  54.796   5.205  1.00  0.15        1SG  966
ATOM    966  C   HIS   119      -5.579  50.648   5.009  1.00  0.15        1SG  967
ATOM    967  O   HIS   119      -4.757  50.091   4.284  1.00  0.15        1SG  968
ATOM    968  N   LYS   120      -5.895  50.183   6.236  1.00  0.15        1SG  969
ATOM    969  CA  LYS   120      -5.323  48.981   6.778  1.00  0.15        1SG  970
ATOM    970  CB  LYS   120      -5.711  47.726   5.981  1.00  0.15        1SG  971
ATOM    971  CG  LYS   120      -7.211  47.438   6.003  1.00  0.15        1SG  972
ATOM    972  CD  LYS   120      -7.654  46.446   4.927  1.00  0.15        1SG  973
ATOM    973  CE  LYS   120      -9.159  46.178   4.933  1.00  0.15        1SG  974
ATOM    974  NZ  LYS   120      -9.537  45.384   3.742  1.00  0.15        1SG  975
ATOM    975  C   LYS   120      -3.828  49.079   6.773  1.00  0.15        1SG  976
ATOM    976  O   LYS   120      -3.147  48.236   6.191  1.00  0.15        1SG  977
ATOM    977  N   VAL   121      -3.270  50.096   7.459  1.00  0.12        1SG  978
ATOM    978  CA  VAL   121      -1.847  50.293   7.458  1.00  0.12        1SG  979
ATOM    979  CB  VAL   121      -1.443  51.742   7.478  1.00  0.12        1SG  980
ATOM    980  CG1 VAL   121       0.090  51.832   7.576  1.00  0.12        1SG  981
ATOM    981  CG2 VAL   121      -2.025  52.431   6.232  1.00  0.12        1SG  982
ATOM    982  C   VAL   121      -1.240  49.648   8.662  1.00  0.12        1SG  983
ATOM    983  O   VAL   121      -1.756  49.748   9.775  1.00  0.12        1SG  984
ATOM    984  N   THR   122      -0.115  48.932   8.447  1.00  0.20        1SG  985
ATOM    985  CA  THR   122       0.569  48.321   9.545  1.00  0.20        1SG  986
ATOM    986  CB  THR   122       0.565  46.820   9.506  1.00  0.20        1SG  987
ATOM    987  OG1 THR   122      -0.770  46.335   9.535  1.00  0.20        1SG  988
ATOM    988  CG2 THR   122       1.344  46.294  10.725  1.00  0.20        1SG  989
ATOM    989  C   THR   122       1.993  48.778   9.503  1.00  0.20        1SG  990
ATOM    990  O   THR   122       2.590  48.895   8.433  1.00  0.20        1SG  991
ATOM    991  N   TYR   123       2.562  49.073  10.688  1.00  0.31        1SG  992
ATOM    992  CA  TYR   123       3.935  49.480  10.795  1.00  0.31        1SG  993
ATOM    993  CB  TYR   123       4.175  50.652  11.755  1.00  0.31        1SG  994
ATOM    994  CG  TYR   123       3.858  51.920  11.056  1.00  0.31        1SG  995
ATOM    995  CD1 TYR   123       2.569  52.379  10.913  1.00  0.31        1SG  996
ATOM    996  CD2 TYR   123       4.901  52.652  10.544  1.00  0.31        1SG  997
ATOM    997  CE1 TYR   123       2.334  53.568  10.261  1.00  0.31        1SG  998
ATOM    998  CE2 TYR   123       4.673  53.835   9.896  1.00  0.31        1SG  999
ATOM    999  CZ  TYR   123       3.391  54.291   9.756  1.00  0.31       1SG1000
ATOM   1000  OH  TYR   123       3.181  55.511   9.089  1.00  0.31       1SG1001
ATOM   1001  C   TYR   123       4.690  48.339  11.381  1.00  0.31       1SG1002
ATOM   1002  O   TYR   123       4.273  47.764  12.386  1.00  0.31       1SG1003
ATOM   1003  N   LEU   124       5.843  47.994  10.770  1.00  0.32       1SG1004
ATOM   1004  CA  LEU   124       6.599  46.877  11.259  1.00  0.32       1SG1005
ATOM   1005  CB  LEU   124       6.814  45.787  10.192  1.00  0.32       1SG1006
ATOM   1006  CG  LEU   124       5.515  45.183   9.624  1.00  0.32       1SG1007
ATOM   1007  CD2 LEU   124       4.590  44.673  10.739  1.00  0.32       1SG1008
ATOM   1008  CD1 LEU   124       5.817  44.105   8.571  1.00  0.32       1SG1009
ATOM   1009  C   LEU   124       7.971  47.343  11.640  1.00  0.32       1SG1010
ATOM   1010  O   LEU   124       8.523  48.248  11.017  1.00  0.32       1SG1011
ATOM   1011  N   GLN   125       8.543  46.757  12.714  1.00  0.33       1SG1012
ATOM   1012  CA  GLN   125       9.913  47.045  13.032  1.00  0.33       1SG1013
ATOM   1013  CB  GLN   125      10.152  47.788  14.359  1.00  0.33       1SG1014
ATOM   1014  CG  GLN   125       9.779  47.001  15.612  1.00  0.33       1SG1015
ATOM   1015  CD  GLN   125      10.320  47.768  16.812  1.00  0.33       1SG1016
ATOM   1016  OE1 GLN   125      11.527  47.814  17.044  1.00  0.33       1SG1017
ATOM   1017  NE2 GLN   125       9.403  48.390  17.600  1.00  0.33       1SG1018
ATOM   1018  C   GLN   125      10.597  45.721  13.137  1.00  0.33       1SG1019
ATOM   1019  O   GLN   125      10.185  44.856  13.907  1.00  0.33       1SG1020
ATOM   1020  N   ASN   126      11.665  45.529  12.346  1.00  0.22       1SG1021
ATOM   1021  CA  ASN   126      12.397  44.297  12.359  1.00  0.22       1SG1022
ATOM   1022  CB  ASN   126      13.085  44.005  13.704  1.00  0.22       1SG1023
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ATOM	1023	CG	ASN	126	14.202	45.024	13.875	1.00	0.22	1SG1024
ATOM	1024	OD1	ASN	126	14.904	45.347	12.919	1.00	0.22	1SG1025
ATOM	1025	ND2	ASN	126	14.369	45.551	15.118	1.00	0.22	1SG1026
ATOM	1026	C	ASN	126	11.473	43.162	12.041	1.00	0.22	1SG1027
ATOM	1027	O	ASN	126	11.685	42.036	12.491	1.00	0.22	1SG1028
ATOM	1028	N	GLY	127	10.420	43.428	11.245	1.00	0.15	1SG1029
ATOM	1029	CA	GLY	127	9.558	42.371	10.800	1.00	0.15	1SG1030
ATOM	1030	C	GLY	127	8.459	42.097	11.784	1.00	0.15	1SG1031
ATOM	1031	O	GLY	127	7.651	41.197	11.556	1.00	0.15	1SG1032
ATOM	1032	N	LYS	128	8.386	42.841	12.907	1.00	0.28	1SG1033
ATOM	1033	CA	LYS	128	7.305	42.595	13.827	1.00	0.28	1SG1034
ATOM	1034	CB	LYS	128	7.746	42.359	15.281	1.00	0.28	1SG1035
ATOM	1035	CG	LYS	128	6.576	41.990	16.198	1.00	0.28	1SG1036
ATOM	1036	CD	LYS	128	6.996	41.432	17.558	1.00	0.28	1SG1037
ATOM	1037	CE	LYS	128	7.294	42.514	18.598	1.00	0.28	1SG1038
ATOM	1038	NZ	LYS	128	7.675	41.886	19.883	1.00	0.28	1SG1039
ATOM	1039	C	LYS	128	6.427	43.808	13.822	1.00	0.28	1SG1040
ATOM	1040	O	LYS	128	6.920	44.933	13.880	1.00	0.28	1SG1041
ATOM	1041	N	ASP	129	5.092	43.604	13.758	1.00	0.47	1SG1042
ATOM	1042	CA	ASP	129	4.182	44.713	13.654	1.00	0.47	1SG1043
ATOM	1043	CB	ASP	129	2.781	44.323	13.141	1.00	0.47	1SG1044
ATOM	1044	CG	ASP	129	2.148	43.334	14.108	1.00	0.47	1SG1045
ATOM	1045	OD1	ASP	129	2.903	42.693	14.887	1.00	0.47	1SG1046
ATOM	1046	OD2	ASP	129	0.896	43.199	14.070	1.00	0.47	1SG1047
ATOM	1047	C	ASP	129	4.040	45.423	14.964	1.00	0.47	1SG1048
ATOM	1048	O	ASP	129	3.732	44.821	15.991	1.00	0.47	1SG1049
ATOM	1049	N	ARG	130	4.370	46.733	14.954	1.00	0.54	1SG1050
ATOM	1050	CA	ARG	130	4.239	47.624	16.073	1.00	0.54	1SG1051
ATOM	1051	CB	ARG	130	5.171	48.845	15.964	1.00	0.54	1SG1052
ATOM	1052	CG	ARG	130	5.312	49.632	17.271	1.00	0.54	1SG1053
ATOM	1053	CD	ARG	130	4.047	50.382	17.689	1.00	0.54	1SG1054
ATOM	1054	NE	ARG	130	4.325	51.062	18.984	1.00	0.54	1SG1055
ATOM	1055	CZ	ARG	130	3.388	51.032	19.976	1.00	0.54	1SG1056
ATOM	1056	NH1	ARG	130	2.230	50.330	19.800	1.00	0.54	1SG1057
ATOM	1057	NH2	ARG	130	3.612	51.697	21.147	1.00	0.54	1SG1058
ATOM	1058	C	ARG	130	2.835	48.152	16.192	1.00	0.54	1SG1059
ATOM	1059	O	ARG	130	2.308	48.302	17.293	1.00	0.54	1SG1060
ATOM	1060	N	LYS	131	2.196	48.478	15.048	1.00	0.34	1SG1061
ATOM	1061	CA	LYS	131	0.921	49.141	15.109	1.00	0.34	1SG1062
ATOM	1062	CB	LYS	131	1.106	50.668	15.097	1.00	0.34	1SG1063
ATOM	1063	CG	LYS	131	-0.168	51.511	15.150	1.00	0.34	1SG1064
ATOM	1064	CD	LYS	131	0.143	53.009	15.235	1.00	0.34	1SG1065
ATOM	1065	CE	LYS	131	-1.058	53.916	14.962	1.00	0.34	1SG1066
ATOM	1066	NZ	LYS	131	-0.665	55.338	15.068	1.00	0.34	1SG1067
ATOM	1067	C	LYS	131	0.121	48.809	13.888	1.00	0.34	1SG1068
ATOM	1068	O	LYS	131	0.657	48.725	12.784	1.00	0.34	1SG1069
ATOM	1069	N	TYR	132	-1.202	48.610	14.067	1.00	0.18	1SG1070
ATOM	1070	CA	TYR	132	-2.078	48.392	12.952	1.00	0.18	1SG1071
ATOM	1071	CB	TYR	132	-2.580	46.941	12.832	1.00	0.18	1SG1072
ATOM	1072	CG	TYR	132	-3.692	46.919	11.840	1.00	0.18	1SG1073
ATOM	1073	CD1	TYR	132	-3.441	46.903	10.488	1.00	0.18	1SG1074
ATOM	1074	CD2	TYR	132	-4.999	46.936	12.267	1.00	0.18	1SG1075
ATOM	1075	CE1	TYR	132	-4.474	46.888	9.581	1.00	0.18	1SG1076
ATOM	1076	CE2	TYR	132	-6.037	46.920	11.364	1.00	0.18	1SG1077
ATOM	1077	CZ	TYR	132	-5.774	46.893	10.016	1.00	0.18	1SG1078
ATOM	1078	OH	TYR	132	-6.827	46.877	9.078	1.00	0.18	1SG1079
ATOM	1079	C	TYR	132	-3.270	49.277	13.136	1.00	0.18	1SG1080
ATOM	1080	O	TYR	132	-3.826	49.344	14.229	1.00	0.18	1SG1081
ATOM	1081	N	PHE	133	-3.674	50.009	12.073	1.00	0.16	1SG1082
ATOM	1082	CA	PHE	133	-4.842	50.847	12.146	1.00	0.16	1SG1083
ATOM	1083	CB	PHE	133	-4.561	52.324	12.491	1.00	0.16	1SG1084
ATOM	1084	CG	PHE	133	-4.409	52.420	13.969	1.00	0.16	1SG1085
ATOM	1085	CD1	PHE	133	-3.262	51.996	14.596	1.00	0.16	1SG1086

ATOM	1086	CD2	PHE	133	-5.424	52.951	14.731	1.00	0.16	1SG1087
ATOM	1087	CE1	PHE	133	-3.140	52.090	15.962	1.00	0.16	1SG1088
ATOM	1088	CE2	PHE	133	-5.307	53.049	16.097	1.00	0.16	1SG1089
ATOM	1089	CZ	PHE	133	-4.161	52.615	16.716	1.00	0.16	1SG1090
ATOM	1090	C	PHE	133	-5.527	50.820	10.821	1.00	0.16	1SG1091
ATOM	1091	O	PHE	133	-4.886	50.846	9.774	1.00	0.16	1SG1092
ATOM	1092	N	HIS	134	-6.869	50.736	10.828	1.00	0.26	1SG1093
ATOM	1093	CA	HIS	134	-7.547	50.719	9.569	1.00	0.26	1SG1094
ATOM	1094	ND1	HIS	134	-9.410	47.923	9.166	1.00	0.26	1SG1095
ATOM	1095	CG	HIS	134	-9.255	48.944	10.077	1.00	0.26	1SG1096
ATOM	1096	CB	HIS	134	-9.039	50.378	9.697	1.00	0.26	1SG1097
ATOM	1097	NE2	HIS	134	-9.537	46.998	11.184	1.00	0.26	1SG1098
ATOM	1098	CD2	HIS	134	-9.334	48.361	11.304	1.00	0.26	1SG1099
ATOM	1099	CE1	HIS	134	-9.576	46.782	9.881	1.00	0.26	1SG1100
ATOM	1100	C	HIS	134	-7.425	52.058	8.902	1.00	0.26	1SG1101
ATOM	1101	O	HIS	134	-7.150	52.143	7.709	1.00	0.26	1SG1102
ATOM	1102	N	HIS	135	-7.712	53.138	9.650	1.00	0.40	1SG1103
ATOM	1103	CA	HIS	135	-7.716	54.478	9.124	1.00	0.40	1SG1104
ATOM	1104	ND1	HIS	135	-8.378	55.032	12.360	1.00	0.40	1SG1105
ATOM	1105	CG	HIS	135	-8.228	55.796	11.224	1.00	0.40	1SG1106
ATOM	1106	CB	HIS	135	-8.708	55.391	9.862	1.00	0.40	1SG1107
ATOM	1107	NE2	HIS	135	-7.321	56.889	12.977	1.00	0.40	1SG1108
ATOM	1108	CD2	HIS	135	-7.581	56.926	11.619	1.00	0.40	1SG1109
ATOM	1109	CE1	HIS	135	-7.818	55.733	13.379	1.00	0.40	1SG1110
ATOM	1110	C	HIS	135	-6.411	55.226	9.122	1.00	0.40	1SG1111
ATOM	1111	O	HIS	135	-6.136	55.962	8.176	1.00	0.40	1SG1112
ATOM	1112	N	ASN	136	-5.579	55.078	10.177	1.00	0.34	1SG1113
ATOM	1113	CA	ASN	136	-4.497	56.015	10.365	1.00	0.34	1SG1114
ATOM	1114	CB	ASN	136	-4.255	56.339	11.847	1.00	0.34	1SG1115
ATOM	1115	CG	ASN	136	-3.317	57.529	11.904	1.00	0.34	1SG1116
ATOM	1116	OD1	ASN	136	-2.170	57.400	12.325	1.00	0.34	1SG1117
ATOM	1117	ND2	ASN	136	-3.806	58.715	11.451	1.00	0.34	1SG1118
ATOM	1118	C	ASN	136	-3.187	55.580	9.769	1.00	0.34	1SG1119
ATOM	1119	O	ASN	136	-2.653	54.518	10.075	1.00	0.34	1SG1120
ATOM	1120	N	SER	137	-2.651	56.454	8.892	1.00	0.23	1SG1121
ATOM	1121	CA	SER	137	-1.429	56.362	8.136	1.00	0.23	1SG1122
ATOM	1122	CB	SER	137	-1.431	57.298	6.916	1.00	0.23	1SG1123
ATOM	1123	OG	SER	137	-2.479	56.939	6.028	1.00	0.23	1SG1124
ATOM	1124	C	SER	137	-0.202	56.706	8.943	1.00	0.23	1SG1125
ATOM	1125	O	SER	137	0.906	56.514	8.445	1.00	0.23	1SG1126
ATOM	1126	N	ASP	138	-0.334	57.310	10.147	1.00	0.21	1SG1127
ATOM	1127	CA	ASP	138	0.853	57.763	10.837	1.00	0.21	1SG1128
ATOM	1128	CB	ASP	138	0.793	59.245	11.273	1.00	0.21	1SG1129
ATOM	1129	CG	ASP	138	-0.332	59.471	12.281	1.00	0.21	1SG1130
ATOM	1130	OD1	ASP	138	-0.325	58.810	13.354	1.00	0.21	1SG1131
ATOM	1131	OD2	ASP	138	-1.221	60.313	11.986	1.00	0.21	1SG1132
ATOM	1132	C	ASP	138	1.179	56.931	12.047	1.00	0.21	1SG1133
ATOM	1133	O	ASP	138	0.353	56.172	12.550	1.00	0.21	1SG1134
ATOM	1134	N	PHE	139	2.442	57.061	12.525	1.00	0.22	1SG1135
ATOM	1135	CA	PHE	139	2.972	56.316	13.635	1.00	0.22	1SG1136
ATOM	1136	CB	PHE	139	3.793	55.124	13.104	1.00	0.22	1SG1137
ATOM	1137	CG	PHE	139	4.421	54.316	14.186	1.00	0.22	1SG1138
ATOM	1138	CD1	PHE	139	3.664	53.563	15.055	1.00	0.22	1SG1139
ATOM	1139	CD2	PHE	139	5.792	54.273	14.287	1.00	0.22	1SG1140
ATOM	1140	CE1	PHE	139	4.270	52.812	16.034	1.00	0.22	1SG1141
ATOM	1141	CE2	PHE	139	6.404	53.523	15.263	1.00	0.22	1SG1142
ATOM	1142	CZ	PHE	139	5.640	52.793	16.141	1.00	0.22	1SG1143
ATOM	1143	C	PHE	139	3.858	57.225	14.441	1.00	0.22	1SG1144
ATOM	1144	O	PHE	139	4.645	57.992	13.885	1.00	0.22	1SG1145
ATOM	1145	N	HIS	140	3.748	57.165	15.789	1.00	0.24	1SG1146
ATOM	1146	CA	HIS	140	4.541	58.034	16.620	1.00	0.24	1SG1147
ATOM	1147	ND1	HIS	140	1.861	59.659	15.668	1.00	0.24	1SG1148
ATOM	1148	CG	HIS	140	2.970	60.039	16.391	1.00	0.24	1SG1149

ATOM	1149	CB	HIS	140	3.716	59.128	17.321	1.00	0.24	1SG1150
ATOM	1150	NE2	HIS	140	2.223	61.801	15.196	1.00	0.24	1SG1151
ATOM	1151	CD2	HIS	140	3.178	61.350	16.090	1.00	0.24	1SG1152
ATOM	1152	CE1	HIS	140	1.455	60.750	14.970	1.00	0.24	1SG1153
ATOM	1153	C	HIS	140	5.125	57.228	17.739	1.00	0.24	1SG1154
ATOM	1154	O	HIS	140	4.444	56.404	18.347	1.00	0.24	1SG1155
ATOM	1155	N	ILE	141	6.419	57.455	18.041	1.00	0.25	1SG1156
ATOM	1156	CA	ILE	141	7.045	56.791	19.144	1.00	0.25	1SG1157
ATOM	1157	CB	ILE	141	8.257	56.002	18.742	1.00	0.25	1SG1158
ATOM	1158	CG2	ILE	141	8.889	55.427	20.020	1.00	0.25	1SG1159
ATOM	1159	CG1	ILE	141	7.895	54.928	17.704	1.00	0.25	1SG1160
ATOM	1160	CD1	ILE	141	9.116	54.309	17.023	1.00	0.25	1SG1161
ATOM	1161	C	ILE	141	7.531	57.873	20.052	1.00	0.25	1SG1162
ATOM	1162	O	ILE	141	8.477	58.587	19.723	1.00	0.25	1SG1163
ATOM	1163	N	PRO	142	6.892	58.036	21.175	1.00	0.43	1SG1164
ATOM	1164	CA	PRO	142	7.352	59.024	22.107	1.00	0.43	1SG1165
ATOM	1165	CD	PRO	142	5.453	57.854	21.248	1.00	0.43	1SG1166
ATOM	1166	CB	PRO	142	6.139	59.430	22.947	1.00	0.43	1SG1167
ATOM	1167	CG	PRO	142	5.083	58.350	22.652	1.00	0.43	1SG1168
ATOM	1168	C	PRO	142	8.466	58.424	22.902	1.00	0.43	1SG1169
ATOM	1169	O	PRO	142	8.482	57.204	23.054	1.00	0.43	1SG1170
ATOM	1170	N	LYS	143	9.387	59.260	23.422	1.00	0.52	1SG1171
ATOM	1171	CA	LYS	143	10.473	58.801	24.241	1.00	0.52	1SG1172
ATOM	1172	CB	LYS	143	10.025	58.371	25.651	1.00	0.52	1SG1173
ATOM	1173	CG	LYS	143	9.356	59.483	26.461	1.00	0.52	1SG1174
ATOM	1174	CD	LYS	143	10.243	60.707	26.696	1.00	0.52	1SG1175
ATOM	1175	CE	LYS	143	9.553	61.806	27.508	1.00	0.52	1SG1176
ATOM	1176	NZ	LYS	143	8.346	62.283	26.794	1.00	0.52	1SG1177
ATOM	1177	C	LYS	143	11.135	57.616	23.605	1.00	0.52	1SG1178
ATOM	1178	O	LYS	143	10.991	56.492	24.083	1.00	0.52	1SG1179
ATOM	1179	N	ALA	144	11.886	57.840	22.508	1.00	0.40	1SG1180
ATOM	1180	CA	ALA	144	12.533	56.758	21.817	1.00	0.40	1SG1181
ATOM	1181	CB	ALA	144	13.097	57.155	20.441	1.00	0.40	1SG1182
ATOM	1182	C	ALA	144	13.672	56.228	22.636	1.00	0.40	1SG1183
ATOM	1183	O	ALA	144	14.282	56.947	23.427	1.00	0.40	1SG1184
ATOM	1184	N	THR	145	13.981	54.926	22.444	1.00	0.44	1SG1185
ATOM	1185	CA	THR	145	15.003	54.249	23.191	1.00	0.44	1SG1186
ATOM	1186	CB	THR	145	14.400	53.346	24.239	1.00	0.44	1SG1187
ATOM	1187	OG1	THR	145	13.520	54.104	25.056	1.00	0.44	1SG1188
ATOM	1188	CG2	THR	145	15.497	52.747	25.138	1.00	0.44	1SG1189
ATOM	1189	C	THR	145	15.788	53.422	22.200	1.00	0.44	1SG1190
ATOM	1190	O	THR	145	15.482	53.410	21.010	1.00	0.44	1SG1191
ATOM	1191	N	LEU	146	16.840	52.724	22.675	1.00	0.63	1SG1192
ATOM	1192	CA	LEU	146	17.739	51.923	21.890	1.00	0.63	1SG1193
ATOM	1193	CB	LEU	146	18.871	51.319	22.739	1.00	0.63	1SG1194
ATOM	1194	CG	LEU	146	19.780	52.375	23.396	1.00	0.63	1SG1195
ATOM	1195	CD2	LEU	146	21.044	51.733	23.988	1.00	0.63	1SG1196
ATOM	1196	CD1	LEU	146	19.008	53.219	24.424	1.00	0.63	1SG1197
ATOM	1197	C	LEU	146	17.007	50.780	21.252	1.00	0.63	1SG1198
ATOM	1198	O	LEU	146	17.373	50.337	20.165	1.00	0.63	1SG1199
ATOM	1199	N	LYS	147	15.970	50.250	21.924	1.00	0.64	1SG1200
ATOM	1200	CA	LYS	147	15.234	49.124	21.415	1.00	0.64	1SG1201
ATOM	1201	CB	LYS	147	14.155	48.611	22.381	1.00	0.64	1SG1202
ATOM	1202	CG	LYS	147	14.737	47.990	23.651	1.00	0.64	1SG1203
ATOM	1203	CD	LYS	147	15.708	46.838	23.378	1.00	0.64	1SG1204
ATOM	1204	CE	LYS	147	15.081	45.661	22.626	1.00	0.64	1SG1205
ATOM	1205	NZ	LYS	147	15.060	45.938	21.172	1.00	0.64	1SG1206
ATOM	1206	C	LYS	147	14.553	49.511	20.138	1.00	0.64	1SG1207
ATOM	1207	O	LYS	147	14.327	48.669	19.271	1.00	0.64	1SG1208
ATOM	1208	N	ASP	148	14.198	50.802	20.011	1.00	0.39	1SG1209
ATOM	1209	CA	ASP	148	13.491	51.371	18.897	1.00	0.39	1SG1210
ATOM	1210	CB	ASP	148	13.077	52.834	19.134	1.00	0.39	1SG1211
ATOM	1211	CG	ASP	148	11.977	52.847	20.187	1.00	0.39	1SG1212

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ATOM   1212  OD1 ASP   148      11.064  51.984  20.096  1.00  0.39      1SG1213
ATOM   1213  OD2 ASP   148      12.030  53.724  21.090  1.00  0.39      1SG1214
ATOM   1214  C   ASP   148      14.314  51.324  17.639  1.00  0.39      1SG1215
ATOM   1215  O   ASP   148      13.763  51.464  16.551  1.00  0.39      1SG1216
ATOM   1216  N   SER   149      15.653  51.209  17.725  1.00  0.24      1SG1217
ATOM   1217  CA  SER   149      16.434  51.189  16.513  1.00  0.24      1SG1218
ATOM   1218  CB  SER   149      17.948  51.047  16.748  1.00  0.24      1SG1219
ATOM   1219  OG  SER   149      18.448  52.160  17.471  1.00  0.24      1SG1220
ATOM   1220  C   SER   149      16.031  49.996  15.702  1.00  0.24      1SG1221
ATOM   1221  O   SER   149      15.620  48.977  16.252  1.00  0.24      1SG1222
ATOM   1222  N   GLY   150      16.118  50.089  14.354  1.00  0.24      1SG1223
ATOM   1223  CA  GLY   150      15.795  48.914  13.596  1.00  0.24      1SG1224
ATOM   1224  C   GLY   150      15.308  49.283  12.229  1.00  0.24      1SG1225
ATOM   1225  O   GLY   150      15.351  50.442  11.818  1.00  0.24      1SG1226
ATOM   1226  N   SER   151      14.819  48.268  11.485  1.00  0.20      1SG1227
ATOM   1227  CA  SER   151      14.351  48.492  10.149  1.00  0.20      1SG1228
ATOM   1228  CB  SER   151      14.691  47.344   9.185  1.00  0.20      1SG1229
ATOM   1229  OG  SER   151      16.099  47.212   9.061  1.00  0.20      1SG1230
ATOM   1230  C   SER   151      12.862  48.605  10.193  1.00  0.20      1SG1231
ATOM   1231  O   SER   151      12.174  47.715  10.692  1.00  0.20      1SG1232
ATOM   1232  N   TYR   152      12.327  49.722   9.661  1.00  0.35      1SG1233
ATOM   1233  CA  TYR   152      10.906  49.925   9.663  1.00  0.35      1SG1234
ATOM   1234  CB  TYR   152      10.463  51.277  10.254  1.00  0.35      1SG1235
ATOM   1235  CG  TYR   152      10.639  51.246  11.735  1.00  0.35      1SG1236
ATOM   1236  CD1 TYR   152      11.873  51.440  12.314  1.00  0.35      1SG1237
ATOM   1237  CD2 TYR   152       9.549  51.036  12.550  1.00  0.35      1SG1238
ATOM   1238  CE1 TYR   152      12.015  51.412  13.682  1.00  0.35      1SG1239
ATOM   1239  CE2 TYR   152       9.685  51.007  13.917  1.00  0.35      1SG1240
ATOM   1240  CZ  TYR   152      10.921  51.195  14.485  1.00  0.35      1SG1241
ATOM   1241  OH  TYR   152      11.068  51.168  15.887  1.00  0.35      1SG1242
ATOM   1242  C   TYR   152      10.384  49.868   8.258  1.00  0.35      1SG1243
ATOM   1243  O   TYR   152      11.039  50.319   7.319  1.00  0.35      1SG1244
ATOM   1244  N   PHE   153       9.174  49.282   8.100  1.00  0.75      1SG1245
ATOM   1245  CA  PHE   153       8.500  49.142   6.835  1.00  0.75      1SG1246
ATOM   1246  CB  PHE   153       8.423  47.706   6.276  1.00  0.75      1SG1247
ATOM   1247  CG  PHE   153       9.717  46.992   6.083  1.00  0.75      1SG1248
ATOM   1248  CD1 PHE   153      10.350  46.400   7.151  1.00  0.75      1SG1249
ATOM   1249  CD2 PHE   153      10.267  46.861   4.828  1.00  0.75      1SG1250
ATOM   1250  CE1 PHE   153      11.531  45.716   6.977  1.00  0.75      1SG1251
ATOM   1251  CE2 PHE   153      11.445  46.177   4.647  1.00  0.75      1SG1252
ATOM   1252  CZ  PHE   153      12.083  45.607   5.724  1.00  0.75      1SG1253
ATOM   1253  C   PHE   153       7.044  49.335   7.134  1.00  0.75      1SG1254
ATOM   1254  O   PHE   153       6.626  49.319   8.292  1.00  0.75      1SG1255
ATOM   1255  N   CYS   154       6.226  49.481   6.071  1.00  0.86      1SG1256
ATOM   1256  CA  CYS   154       4.807  49.626   6.230  1.00  0.86      1SG1257
ATOM   1257  CB  CYS   154       4.356  51.084   6.045  1.00  0.86      1SG1258
ATOM   1258  SG  CYS   154       2.557  51.224   5.915  1.00  0.86      1SG1259
ATOM   1259  C   CYS   154       4.117  48.817   5.167  1.00  0.86      1SG1260
ATOM   1260  O   CYS   154       4.680  48.544   4.108  1.00  0.86      1SG1261
ATOM   1261  N   ARG   155       2.870  48.380   5.451  1.00  0.56      1SG1262
ATOM   1262  CA  ARG   155       2.050  47.690   4.499  1.00  0.56      1SG1263
ATOM   1263  CB  ARG   155       1.825  46.206   4.836  1.00  0.56      1SG1264
ATOM   1264  CG  ARG   155       3.105  45.370   4.777  1.00  0.56      1SG1265
ATOM   1265  CD  ARG   155       2.895  43.891   5.109  1.00  0.56      1SG1266
ATOM   1266  NE  ARG   155       2.510  43.797   6.545  1.00  0.56      1SG1267
ATOM   1267  CZ  ARG   155       1.952  42.646   7.022  1.00  0.56      1SG1268
ATOM   1268  NH1 ARG   155       1.743  41.593   6.180  1.00  0.56      1SG1269
ATOM   1269  NH2 ARG   155       1.603  42.548   8.338  1.00  0.56      1SG1270
ATOM   1270  C   ARG   155       0.716  48.370   4.543  1.00  0.56      1SG1271
ATOM   1271  O   ARG   155       0.343  48.942   5.569  1.00  0.56      1SG1272
ATOM   1272  N   GLY   156      -0.028  48.351   3.416  1.00  0.35      1SG1273
ATOM   1273  CA  GLY   156      -1.322  48.985   3.400  1.00  0.35      1SG1274
ATOM   1274  C   GLY   156      -2.002  48.644   2.110  1.00  0.35      1SG1275
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ATOM	1275	O	GLY	156	-1.354	48.263	1.135	1.00	0.35	1SG1276
ATOM	1276	N	LEU	157	-3.344	48.794	2.057	1.00	0.37	1SG1277
ATOM	1277	CA	LEU	157	-4.007	48.431	0.841	1.00	0.37	1SG1278
ATOM	1278	CB	LEU	157	-5.300	47.603	1.002	1.00	0.37	1SG1279
ATOM	1279	CG	LEU	157	-6.616	48.389	1.183	1.00	0.37	1SG1280
ATOM	1280	CD2	LEU	157	-6.549	49.386	2.345	1.00	0.37	1SG1281
ATOM	1281	CD1	LEU	157	-7.805	47.425	1.325	1.00	0.37	1SG1282
ATOM	1282	C	LEU	157	-4.334	49.668	0.075	1.00	0.37	1SG1283
ATOM	1283	O	LEU	157	-4.844	50.650	0.612	1.00	0.37	1SG1284
ATOM	1284	N	VAL	158	-3.984	49.648	-1.223	1.00	0.25	1SG1285
ATOM	1285	CA	VAL	158	-4.299	50.717	-2.117	1.00	0.25	1SG1286
ATOM	1286	CB	VAL	158	-3.125	51.171	-2.929	1.00	0.25	1SG1287
ATOM	1287	CG1	VAL	158	-3.625	52.124	-4.027	1.00	0.25	1SG1288
ATOM	1288	CG2	VAL	158	-2.088	51.796	-1.981	1.00	0.25	1SG1289
ATOM	1289	C	VAL	158	-5.279	50.130	-3.065	1.00	0.25	1SG1290
ATOM	1290	O	VAL	158	-4.985	49.143	-3.738	1.00	0.25	1SG1291
ATOM	1291	N	GLY	159	-6.481	50.718	-3.149	1.00	0.14	1SG1292
ATOM	1292	CA	GLY	159	-7.440	50.118	-4.018	1.00	0.14	1SG1293
ATOM	1293	C	GLY	159	-7.690	48.744	-3.486	1.00	0.14	1SG1294
ATOM	1294	O	GLY	159	-8.016	48.562	-2.315	1.00	0.14	1SG1295
ATOM	1295	N	SER	160	-7.597	47.751	-4.385	1.00	0.21	1SG1296
ATOM	1296	CA	SER	160	-7.836	46.363	-4.117	1.00	0.21	1SG1297
ATOM	1297	CB	SER	160	-8.189	45.585	-5.397	1.00	0.21	1SG1298
ATOM	1298	OG	SER	160	-9.399	46.082	-5.951	1.00	0.21	1SG1299
ATOM	1299	C	SER	160	-6.697	45.631	-3.469	1.00	0.21	1SG1300
ATOM	1300	O	SER	160	-6.940	44.695	-2.707	1.00	0.21	1SG1301
ATOM	1301	N	LYS	161	-5.428	45.995	-3.753	1.00	0.33	1SG1302
ATOM	1302	CA	LYS	161	-4.384	45.112	-3.306	1.00	0.33	1SG1303
ATOM	1303	CB	LYS	161	-3.423	44.675	-4.426	1.00	0.33	1SG1304
ATOM	1304	CG	LYS	161	-4.077	43.773	-5.475	1.00	0.33	1SG1305
ATOM	1305	CD	LYS	161	-3.228	43.568	-6.732	1.00	0.33	1SG1306
ATOM	1306	CE	LYS	161	-2.135	42.511	-6.567	1.00	0.33	1SG1307
ATOM	1307	NZ	LYS	161	-1.386	42.355	-7.833	1.00	0.33	1SG1308
ATOM	1308	C	LYS	161	-3.550	45.700	-2.217	1.00	0.33	1SG1309
ATOM	1309	O	LYS	161	-3.514	46.909	-1.998	1.00	0.33	1SG1310
ATOM	1310	N	ASN	162	-2.847	44.800	-1.499	1.00	0.32	1SG1311
ATOM	1311	CA	ASN	162	-1.996	45.168	-0.406	1.00	0.32	1SG1312
ATOM	1312	CB	ASN	162	-1.860	44.057	0.653	1.00	0.32	1SG1313
ATOM	1313	CG	ASN	162	-0.975	44.545	1.794	1.00	0.32	1SG1314
ATOM	1314	OD1	ASN	162	0.206	44.834	1.613	1.00	0.32	1SG1315
ATOM	1315	ND2	ASN	162	-1.568	44.637	3.015	1.00	0.32	1SG1316
ATOM	1316	C	ASN	162	-0.634	45.444	-0.958	1.00	0.32	1SG1317
ATOM	1317	O	ASN	162	-0.169	44.764	-1.872	1.00	0.32	1SG1318
ATOM	1318	N	VAL	163	0.037	46.480	-0.419	1.00	0.27	1SG1319
ATOM	1319	CA	VAL	163	1.352	46.811	-0.881	1.00	0.27	1SG1320
ATOM	1320	CB	VAL	163	1.412	48.149	-1.564	1.00	0.27	1SG1321
ATOM	1321	CG1	VAL	163	2.865	48.442	-1.971	1.00	0.27	1SG1322
ATOM	1322	CG2	VAL	163	0.427	48.136	-2.746	1.00	0.27	1SG1323
ATOM	1323	C	VAL	163	2.256	46.869	0.311	1.00	0.27	1SG1324
ATOM	1324	O	VAL	163	1.803	47.074	1.437	1.00	0.27	1SG1325
ATOM	1325	N	SER	164	3.568	46.644	0.088	1.00	0.29	1SG1326
ATOM	1326	CA	SER	164	4.521	46.731	1.157	1.00	0.29	1SG1327
ATOM	1327	CB	SER	164	5.214	45.401	1.489	1.00	0.29	1SG1328
ATOM	1328	OG	SER	164	6.044	45.006	0.409	1.00	0.29	1SG1329
ATOM	1329	C	SER	164	5.591	47.688	0.728	1.00	0.29	1SG1330
ATOM	1330	O	SER	164	5.981	47.717	-0.438	1.00	0.29	1SG1331
ATOM	1331	N	SER	165	6.086	48.513	1.672	1.00	0.20	1SG1332
ATOM	1332	CA	SER	165	7.106	49.478	1.365	1.00	0.20	1SG1333
ATOM	1333	CB	SER	165	7.030	50.750	2.228	1.00	0.20	1SG1334
ATOM	1334	OG	SER	165	7.351	50.442	3.577	1.00	0.20	1SG1335
ATOM	1335	C	SER	165	8.449	48.865	1.616	1.00	0.20	1SG1336
ATOM	1336	O	SER	165	8.562	47.791	2.206	1.00	0.20	1SG1337
ATOM	1337	N	GLU	166	9.514	49.538	1.134	1.00	0.24	1SG1338

ATOM	1338	CA	GLU	166	10.849	49.081	1.386	1.00	0.24	1SG1339
ATOM	1339	CB	GLU	166	11.899	49.631	0.405	1.00	0.24	1SG1340
ATOM	1340	CG	GLU	166	11.737	49.101	-1.022	1.00	0.24	1SG1341
ATOM	1341	CD	GLU	166	12.830	49.716	-1.884	1.00	0.24	1SG1342
ATOM	1342	OE1	GLU	166	14.005	49.735	-1.432	1.00	0.24	1SG1343
ATOM	1343	OE2	GLU	166	12.500	50.180	-3.009	1.00	0.24	1SG1344
ATOM	1344	C	GLU	166	11.199	49.563	2.758	1.00	0.24	1SG1345
ATOM	1345	O	GLU	166	10.560	50.471	3.286	1.00	0.24	1SG1346
ATOM	1346	N	THR	167	12.223	48.948	3.382	1.00	0.37	1SG1347
ATOM	1347	CA	THR	167	12.579	49.311	4.726	1.00	0.37	1SG1348
ATOM	1348	CB	THR	167	13.348	48.260	5.469	1.00	0.37	1SG1349
ATOM	1349	OG1	THR	167	13.474	48.621	6.836	1.00	0.37	1SG1350
ATOM	1350	CG2	THR	167	14.741	48.133	4.831	1.00	0.37	1SG1351
ATOM	1351	C	THR	167	13.464	50.514	4.734	1.00	0.37	1SG1352
ATOM	1352	O	THR	167	14.103	50.863	3.742	1.00	0.37	1SG1353
ATOM	1353	N	VAL	168	13.478	51.191	5.899	1.00	0.32	1SG1354
ATOM	1354	CA	VAL	168	14.342	52.301	6.161	1.00	0.32	1SG1355
ATOM	1355	CB	VAL	168	13.619	53.606	6.332	1.00	0.32	1SG1356
ATOM	1356	CG1	VAL	168	14.652	54.707	6.628	1.00	0.32	1SG1357
ATOM	1357	CG2	VAL	168	12.777	53.870	5.071	1.00	0.32	1SG1358
ATOM	1358	C	VAL	168	14.985	51.983	7.477	1.00	0.32	1SG1359
ATOM	1359	O	VAL	168	14.311	51.562	8.417	1.00	0.32	1SG1360
ATOM	1360	N	ASN	169	16.315	52.167	7.582	1.00	0.27	1SG1361
ATOM	1361	CA	ASN	169	16.961	51.845	8.820	1.00	0.27	1SG1362
ATOM	1362	CB	ASN	169	18.405	51.332	8.659	1.00	0.27	1SG1363
ATOM	1363	CG	ASN	169	19.251	52.419	8.010	1.00	0.27	1SG1364
ATOM	1364	OD1	ASN	169	18.923	52.927	6.939	1.00	0.27	1SG1365
ATOM	1365	ND2	ASN	169	20.374	52.794	8.680	1.00	0.27	1SG1366
ATOM	1366	C	ASN	169	16.998	53.089	9.640	1.00	0.27	1SG1367
ATOM	1367	O	ASN	169	17.465	54.135	9.191	1.00	0.27	1SG1368
ATOM	1368	N	ILE	170	16.466	52.999	10.872	1.00	0.18	1SG1369
ATOM	1369	CA	ILE	170	16.432	54.120	11.759	1.00	0.18	1SG1370
ATOM	1370	CB	ILE	170	15.039	54.499	12.169	1.00	0.18	1SG1371
ATOM	1371	CG2	ILE	170	15.125	55.597	13.239	1.00	0.18	1SG1372
ATOM	1372	CG1	ILE	170	14.219	54.903	10.933	1.00	0.18	1SG1373
ATOM	1373	CD1	ILE	170	12.736	55.115	11.224	1.00	0.18	1SG1374
ATOM	1374	C	ILE	170	17.174	53.727	12.987	1.00	0.18	1SG1375
ATOM	1375	O	ILE	170	16.957	52.654	13.549	1.00	0.18	1SG1376
ATOM	1376	N	THR	171	18.089	54.595	13.443	1.00	0.23	1SG1377
ATOM	1377	CA	THR	171	18.828	54.212	14.600	1.00	0.23	1SG1378
ATOM	1378	CB	THR	171	20.303	54.095	14.351	1.00	0.23	1SG1379
ATOM	1379	OG1	THR	171	20.555	53.121	13.348	1.00	0.23	1SG1380
ATOM	1380	CG2	THR	171	20.992	53.691	15.665	1.00	0.23	1SG1381
ATOM	1381	C	THR	171	18.633	55.238	15.658	1.00	0.23	1SG1382
ATOM	1382	O	THR	171	18.599	56.440	15.396	1.00	0.23	1SG1383
ATOM	1383	N	ILE	172	18.448	54.760	16.899	1.00	0.52	1SG1384
ATOM	1384	CA	ILE	172	18.446	55.666	17.987	1.00	0.52	1SG1385
ATOM	1385	CB	ILE	172	17.615	55.233	19.175	1.00	0.52	1SG1386
ATOM	1386	CG2	ILE	172	18.032	53.833	19.655	1.00	0.52	1SG1387
ATOM	1387	CG1	ILE	172	17.636	56.325	20.257	1.00	0.52	1SG1388
ATOM	1388	CD1	ILE	172	16.588	56.119	21.349	1.00	0.52	1SG1389
ATOM	1389	C	ILE	172	19.882	55.716	18.301	1.00	0.52	1SG1390
ATOM	1390	O	ILE	172	20.463	54.767	18.833	1.00	0.52	1SG1391
ATOM	1391	N	THR	173	20.493	56.859	17.933	1.00	0.62	1SG1392
ATOM	1392	CA	THR	173	21.892	57.061	18.114	1.00	0.62	1SG1393
ATOM	1393	CB	THR	173	22.335	58.461	17.796	1.00	0.62	1SG1394
ATOM	1394	OG1	THR	173	23.752	58.546	17.821	1.00	0.62	1SG1395
ATOM	1395	CG2	THR	173	21.728	59.430	18.825	1.00	0.62	1SG1396
ATOM	1396	C	THR	173	22.118	56.823	19.551	1.00	0.62	1SG1397
ATOM	1397	O	THR	173	23.170	56.335	19.960	1.00	0.62	1SG1398
ATOM	1398	N	GLN	174	21.099	57.144	20.363	1.00	0.51	1SG1399
ATOM	1399	CA	GLN	174	21.327	56.893	21.735	1.00	0.51	1SG1400
ATOM	1400	CB	GLN	174	20.192	57.355	22.657	1.00	0.51	1SG1401

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ATOM   1401  CG  GLN   174      20.594  57.287  24.130  1.00  0.51      1SG1402
ATOM   1402  CD  GLN   174      21.508  58.471  24.408  1.00  0.51      1SG1403
ATOM   1403  OE1 GLN   174      21.278  59.575  23.917  1.00  0.51      1SG1404
ATOM   1404  NE2 GLN   174      22.579  58.237  25.212  1.00  0.51      1SG1405
ATOM   1405  C   GLN   174      21.464  55.387  21.896  1.00  0.51      1SG1406
ATOM   1406  O   GLN   174      20.520  54.662  21.485  1.00  0.51      1SG1407
ATOM   1407  OXT GLN   174      22.513  54.940  22.435  1.00  0.51      1SG1408
END
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The following examples are provided for the purposes of illustration and are not intended to limit the scope of the present invention.

EXAMPLES

Example 1

This example describes the construction of a recombinant baculovirus expressing soluble FcγRIIa protein and the production of such protein.

Recombinant molecule pFcγRIIa, containing a nucleic acid molecule encoding a soluble form of human FcγRII (sFcγRIIa) operatively linked to baculovirus polyhedron transcription control sequences was produced as follows. The nucleic acid molecule sFcγRIIa was polymerase chain reaction (PCR) amplified from about 10 nanogram (ng) of FcγRIIa^{LR} cDNA (described in detail in Ierino, et al., *J. Exp. Med.*, vol. 178, pp. 1617-1628, 1993) using about 100 ng of primer NR1 having the nucleic acid sequence 5'-TAC GAA TTC CTA TGG AGA CCC AAA TGT CTC-3' (denoted SEQ ID NO:1) and primer FI2 having the nucleic acid sequence 5Õ-CAT TCT AGA CTA TTG GAC AGT GAT GGT CAC-3' (denoted SEQ ID NO:2), using standard PCR methods. The resulting PCR product is 510 base pairs (referred to herein as sFcγRIIa(a)) and encodes the amino acid sequence represented herein by SEQ ID NO:3. Based on the results obtained in the Mass Spectroscopy experiment described in Example 7, a second protein product is present upon expression

of a recombinant molecule comprising a PCR product of this Example. This data suggests that two PCR products were produced from the present method. The second PCR product is predicted to be 513 base pairs (referred to herein as sFcγRIIa(b)) and encodes the amino acid sequence represented herein by SEQ ID NO:12. The PCR products were digested with restriction endonucleases *Eco*RI and *Xba*I and ligated into unique *Eco*RI and *Xba*I sites of pVL1392 baculovirus shuttle plasmid (available from Pharmingen, San Diego, CA) to produce recombinant molecules referred to herein as pVL-sFcγRIIa(a) and pVL-sFcγRIIa(b).

The recombinant molecules pVL-sFcγRIIa(a) and pVL-sFcγRIIa(b) were co-transfected with baculovirus strain *AcMNPV* (available from Pharmingen) into *Spodoptera frugiperda* 21 (Sf-21) cells (available from Invitrogen Corp., San Diego, CA) to produce *S. frugiperda*:pVL-sFcγRIIa(a)/sFcγRIIa(b) cells. Putative recombinant virus isolates were selected by screening on X-galactosidase plates for occlusion of b-galactosidase. Selected isolates were grown on monolayers of Sf-21 cells for infection using serum-free Sf900-II media (available from Gibco, New York) and the supernatant harvested about 40 hours post-infection. The presence of recombinant protein, referred to herein as PsFcγRIIa, in the supernatants was determined by ELISA using anti-FcγRII monoclonal antibodies 8.26 and 8.7 (described in detail in Ierino, et al., *ibid.*) using standard methods. Based on the results described in Example 7, recombinant protein PsFcγRIIa includes the two species of protein having SEQ ID NO:3 and SEQ ID NO:12.

Example 2

This example describes the purification of PsFcγRIIa for crystallization of the protein.

Supernatant from *S. frugiperda*: pVL-sFcγRIIa(a)/ sFcγRIIa(b) cells described above in Example 1 was harvested and then centrifuged at about x2000 rpm to remove cellular debri. Supernatant from the centrifugation was concentrated about five-fold using a Minitan[a] ultrafiltration system (available from Millipore, Bedford, MA) and then extensively dialyzed against a buffer containing 10 mM Tris-HCl pH 8.5, and 50 mM NaCl. The dialyzed solution was applied to a Q-Sepharose fast-flow ion exchange column (available from Pharmacia, Uppsala, Sweden). The column was washed with 10 mM Tris-HCl, pH 8.5, and then protein was eluted from the column using a salt gradient from about of 0 to about 500 mM NaCl, passed over the column over 4 hours. PsFcγRIIa was eluted from the column at approximately 150 mM NaCl. The partially purified product was dialyzed against a buffer containing 20 mM Tris-HCl pH 7.4, and 30 mM NaCl. The dialysate was applied to a HAGG immuno-affinity chromatography column (described in detail in Ierino, et al., *ibid.*). The column was washed with a buffer containing 20 mM Tris-HCl pH 7.4, and 30 mM NaCl. PsFcγRIIa was eluted from the column using a buffer containing 0.1 M sodium acetate pH 4.0, and 0.5 M NaCl. The eluant was neutralized using 3m Tris pH8.0 and the dialysed against PBS (3.5 mM $NaH_2PO_4 2H_2O$, 16 mM Na_2HPO_4, 150 mM NaCl). The dialysate was then concentrated approximately fifty-fold using macro and nanosep-10 ultra-filtration concentration devices (available from Filtron, Northborough, MA) and the applied to a G75 Superdex gel filtration column equilibrated in PBS (available from Pharmacia, Uppsala, Sweden). Filtered PsFcγRIIa was dialyzed against 1 mM Tris-HCl pH 7.4 and concentrated to about 6 milligram per milliliter (mg/ml) of protein using macro and nanosep-10 ultra-filtration concentration devices. The purity of PsFcγRIIa was assessed by resolving the

concentrated protein by SDS-PAGE and staining the protein with crocein scarlet.

An electronic scan of the resulting gel is shown in Fig. 1, in which lane A contains supernatant harvested from a *S. frugiperda*:pVL-sFcγRIIa(a)/sFcγRIIa(b) cell culture prior to the ion-exchange step, lane B contains protein eluted from the affinity column, lane C contains protein isolated from the gel filtration chromatography step and lane D contains a sample of the PsFcγRIIa concentrated to 6 mg/ml and that was used for further crystallization studies. The molecular weight markers are shown on the left side of the figure. The results indicate that the purified PsFcγRIIa was about 90% pure with apparent molecular weights of 25,000 daltons.

Example 3

This example describes two-dimensional non-equilibrium pH gel electrophoresis analysis of purified PsFcγRIIa.

Supernatant from *S. frugiperda*:pVL-sFcγRIIa(a)/sFcγRIIa(b) was incubated with about 20 microliter (ml) of packed Sepharose 4B beads conjugated with F(ab') fragments of anti-FcγRII monoclonal antibody 8.26 (IgG2b) (the production of which is described in *J. Immunol.*, vol. 150, pp. 1-10, 1993) for about 1 hour at 4°C. The beads were then washed with buffer containing 10 mM Tris-HCl pH 7.4, 2% wt/vol bovine serum albumin (available from Commonwealth Serum Laboratories, Melbourne, Australia), 1 mM PMSF (available from Sigma Chemical Co., St. Louis, MO), 0.1% vol/vol Aprotinin (available from Sigma Chemical Co.), and then with 10 mM Tris-HCl, pH 7.4. The beads were resuspended in about 50 ml isoelectric focusing denaturation buffer (9.5 M urea, 4% acrylamide, 2% wt/vol NP-40, 2% total ampholines and 50 mM dithiothreitol), spun at about x13,000 rpm for about 2 minutes, loaded onto 4% tube gels and overlaid with about 10

ml of overlay buffer (9 M urea, 1% total ampholines) and anode buffer (0.01 M phosphoric acid), and electrophoresed for about 5 hours at about 550 Volts. The gels were then removed from the glass tubes, equilibrated in SDS-PAGE sample buffer (62.5 mM Tris-HCl, pH 6.8, 50 mM dithiothreitol and 10% glycerol) for about 2 hours at room temperature and attached to the top of a 13% slab gel for SDS-PAGE.

The electrophoresed proteins were transferred to Immobilon-P PVDF membrane (available from Millipore) using a semi-dry transfer cell (Biorad, Australia) under a 20 mA current for about 30 minutes. The membrane was blocked in PBS buffer containing 5% wt/vol skim milk for about 1 hour. The membrane was then incubated overnight with a rabbit anti-FcγRII polyclonal antisera (diluted 1:10,000 in PBS containing 5% wt/vol skim milk) and then washed extensively with buffer (10 mM Tris-HCl, pH 8.0, 150 mM NaCl, 0.05% Tween-20). The polyclonal antisera was raised in rabbits by immunization with recombinant FcγRII protein. The animals were immunized with about 1 mg of FcγRII protein. For the first immunization, FcγRII protein was emulsified in complete Freunds adjuvant. Subsequent immunizations were performed using FcγRII protein emulsified in incomplete Freunds adjuvant. The membrane was then incubated with peroxidase-linked swine anti-rabbit antisera (available from Dako Corp., Denmark) (diluted 1:5000 in 10 mM Tris-HCl, pH 8.0, 150 mM NaCl and 0.05% Tween-20) for about 1 hour at room temperature. The membrane was washed before detection of the transferred protein using the enhanced chemiluminescence system (available from Amersham International, Australia). An electronic scan of the resulting gels are shown in Figs. 2A and 2B. Fig. 2A illustrates the migration of protein isolated from supernatant harvested from *S.*

frugiperda:pVL-sFcγRIIa(a)/sFcγRIIa(b) cell cultures after 34 hours. Fig. 2B illustrates the migration of protein isolated from supernatant harvested from *S. frugiperda*:pVL-sFcγRIIa(a)/sFcγRIIa(b) cell cultures after 73 hours. The molecular weight markers are shown on the left side of the figure. The results indicate that the purified PsFcγRIIa has an apparent molecular weight of 25,000 daltons and a pI at about pH 6.

Example 4

This example describes N-terminal peptide sequence of PsFcγRIIa.

Amino acid sequencing of purified PsFcγRIIa described in Example 2 using standard sequential Edman degradation method using an Applied Biosystem 470A gas phase sequenator coupled to an Applied Biosystem 130 separation system for automatic on-line analysis of the first eight amino acids (available from Applied Biosystems, CA). The n-terminal sequence was determined to be Ala-Pro-Pro-Lys-Ala-Val-Leu-Lys (denoted as SEQ ID NO:4).

Example 5

This example describes the binding of PsFcγRIIa to monomeric immunoglobulin.

Analysis of the interaction between PsFcγRIIa and monomeric immunoglobulin was performed using a BIAcore[a] 2000 biosensor (available from Pharmacia Biotech, Uppsala, Sweden) at about 22°C in Hepes buffered saline (HBS; 10 mM Hepes [N-2-hydroxyethylpiperazine-N'-2-ethanesulfonic acid, available from Commonwealth Serum Laboratories, Parkville, Australia], pH 7.4, 150 mM NaCl, 3.4 mM EDTA and 0.005% Surfactant, available from Pharmacia). About 4000 to about 6000 response units (RU) of monomeric human immunoglobulin subclasses IgG1, IgG2, IgG3, and IgE (50μg/ml of each) were

covalently coupled to separate carboxymethylated dextran surface of each CM5 sensor-chips (available from BIAcore, Uppsala, Sweden) using a amine coupling kit (available from BIAcore), according to manufacturer's methods. A series of PsFcγRIIa concentrations (about 0.001 to about 1 mg/ml protein) was injected over each sensor-chip surface for about 1 minute at about 20 μl/min followed by about 3 minute dissociation phase. Following administration of the protein, the immunoglobulin surface was regenerated on each chip using a buffer containing 50 mM diethylamine pH 11.5, and 1 M NaCl. The equilibrium dissociation constants (K_D) for the interaction between PsFcγRIIa and immunoglobulin were obtained by non-linear curve fitting of a single site binding equation [Bound RU = $(B1_{max}.C)/(K_{D1} + C)$]; or a two site binding equation [Bound RU = $((B1_{max}.C)/(K_{D1} + C)) + ((B2_{max}.C)/(K_{D2} + C))$], where ($B1_{max}$ refers to the maximum binding capacity of the surface at site 1; $B2_{max}$ refers to the maximum binding capacity of the surface at site 2; C refers to the concentration of PsFcγRIIa) and by linear curve fitting to Scatchard plots. Data points obtained from the IgE channels were subtracted to correct for refractive index differences. Data points between 50 and 60 seconds were averaged to obtain the amount of PsFcγRIIa bound at equilibrium for each PsFcγRIIa concentration.

To determine the specificity of the interaction between PsFcγRIIa and immobilized immunoglobulin, the interaction between PsFcγRIIa with monomeric immunoglobulin was inhibited by the presence of excess monomeric IgG (Sandaglobulin, available from Sandoz, Basel, Switzerland). Using a fixed, half maximal dose of PsFcγRIIa (50 μg/ml), increasing concentrations of monomeric IgG (0 to 2 mg/ml IgG) were mixed with the PsFcγRIIa, at about 22°C for about 1 hour before

passing the PsFcγRIIa over a sensor-chip surface coated with IgG1.

The results indicated that the binding of PsFcγRIIa to IgG3 and IgG1 was saturable over a broad range of protein concentrations. The maximum response units per protein concentration were plotted against the molar concentration of protein and curve fitting analyses undertaken. The curve of best fit suggests that there are two regions of PsFcγRIIa that interact with IgG3. At 50% of the sites, the affinity for IgG3 was about 2.7 x 10^6M^{-1} and at the remaining 50% of the sites the affinity was about 1.2 x 10^4 M^{-1} (Fig. 3A). The interaction between PsFcγRIIa and IgG1 also occurred in two regions but the interaction was different from IgG3. Moreover, at about 90% of the ligand binding sites, the affinity of PsFcγRIIa for IgG1 was about 2.1 x 10^6M^{-1} and at the remaining 10% of sites the affinity was about 2.3 x 10^4M^{-1} (Fig. 3B). The interaction was specific for PsFcγRIIa since a six-fold molar excess of IgG completely inhibited binding of PsFcγRIIa to IgG. Analysis of IgG2 binding was also performed and a Kd value of about 8 x $10^{-5}M^{-1}$ was obtained (Fig. 3C).

Example 6

This example describes crystallization and X-ray diffraction of PsFcγRIIa.

A. Production of crystalline PsFcγRIIa

A series of alternative buffers were used to attempt to produce crystals of PsFcγRIIa by hanging drop vapor diffusion. Table 6 summarizes the different mother-liquor formulations used and the results obtained.

Table 6. Mother-liquor conditions and results of crystallization trial 3 mg/ml PsFcγRIIa.

No.	SALT	BUFFER	PRECIPITANT[a]	pH	RESULT
1	0.2M Calcium Chloride	0.1 M Acetate	30% MPD	4.6	clear drop

N .	SALT	BUFFER	PRECIPITANT[a]	pH	RESULT
2	_____	_____	0.4M Na K Tartrate	_____	fine precipitation
3	_____	_____	0.4M Amm. Phosphate	_____	clear drop
4	_____	0.1M Tris	2.0M Amm. Sulphate	8.5	clear drop
5	0.2M Sodium Citrate	0.1M Hepes	40% MPD	7.5	phase separation
6	0.2M Mg Chloride	0.1M Tris	30% PEG 4000	8.5	dried up
7	_____	0.1M Cacodylate	1.4M Sodium Acetate	6.5	clear drop
8	0.2M Sodium Citrate	0.1M Cacodylate	30% Isopropanol	6.5	clear drop
9[b]	0.2M Amm. Acetate	0.1M Sodium Citrate	30% PEG 4000	5.6	phase separation & crystal
10	0.2M Amm. Acetate	0.1M Acetate	30% PEG 4000	4.6	clear drop
11	_____	0.1M Citrate	1.0M Amm. Phophate	5.6	clear drop
12	0.2M Mg Chloride	0.1M Hepes	30% Isopropanol	7.5	clear drop
13	0.2M Sodium Citrate	0.1M Tris	30% PEG 400	8.5	phase separation
14	0.2M Calcium Chloride	0.1M Hepes	28% PEG 400	7.5	precipitation
15	0.2M Amm. Sulphate	0.1M Cacodylate	30% PEG 8000	6.5	precipitation
16[c]	_____	0.1M Hepes	1.5M Lithium Sulphate	7.5	splinters
17	0.2M Lithium Sulphate	0.1M Hepes	30% PEG 4000	7.5	phase separation
18	0.2M Mg Acetate	0.1M Cacodylate	20% PEG 8000	6.5	clear drop
19	0.2M Amm. Acetate	0.1M Tris	30% Isopropanol	8.5	clear drop
20	0.2M Amm. Sulphate	0.1M Acetate	25% PEG 4000	4.6	heavy precipitation
21	0.2M Mg Acetate	0.1M Cacodylate	30% MPD	6.5	fine precipitation
22	0.2M Sodium Acetate	0.1M Tris	30% PEG 4000	8.5	fine precipitation
23	0.2M Mg Chloride	0.1M Hepes	30% PEG 400	7.5	skin over drop
24	0.2M Calcium Chloride	0.1M Acetate	20% Isopropanol	4.6	clear drop
25[d]	_____	0.1M Imidazole	1.0M Sodium Acetate	7.5	crystal
26	0.2M Amm. Acetate	0.1M Citrate	30% MPD	5.6	clear drop
27	0.2M Sodium Citrate	0.1M Hepes	20% Isopropanol	7.5	clear drop
28	0.2M Sodium Acetate	0.1M Cacodylate	30% PEG 8000	6.5	clear drop
29	_____	0.1M Hepes	0.8M Na K Tartrate	7.5	clear drop
30	0.2M Amm. Sulphate	_____	30% PEG 8000	_____	precipitation
31	0.2M Amm. Sulphate	_____	30% PEG 4000	_____	precipitation
32	_____	_____	2.0M Amm. Sulphate	_____	clear drop
33	_____	_____	4.0M Sodium Formate	_____	precipitation
34	_____	0.1M Acetate	2.0M Sodium Formate	4.6	precipitation
35	_____	0.1M Hepes	2.0M Na K Phosphate	7.5	precipitation
36	_____	0.1M Tris	8% PEG 8000	8.5	precipitation
37	_____	0.1M Acetate	8% PEG 4000	4.6	aggregation
38	_____	0.1M Hepes	1.4M Na Citrate	7.5	heavy precipitation
39	_____	0.1M Hepes	2.0M Amm. Sulphate 2% PEG 400	7.5	fine precipitation
40	_____	0.1M Citrate	20% PEG 4000, 20% Isopropanol	5.6	fine aggregation

No.	SALT	BUFFER	PRECIPITANT[a]	pH	RESULT
41	_____	0.1M Hepes	20% PEG 4000, 10% Isopropanol	7.5	clear drop
42	0.05M K Phosphate	_____	20% PEG 8000	_____	clear drop
43	_____	_____	30% PEG 1500	_____	clear drop
44	_____	_____	0.2M Mg Formate	_____	clear drop
45	0.2M Zn Acetate	0.1M Cacodylate	18% PEG 8000	6.5	heavy precipitation
46	0.2M Ca Acetate	0.1M Cacodylate	18% PEG 8000	6.5	fine precipitation
47	_____	0.1M Acetate	2.0M Amm. Sulphate	4.6	heavy precipitation
48	_____	0.1M Tris	2.0M Amm. Sulphate	8.5	fine precipitation
49	1.0M Li Sulphate	_____	2% PEG 8000	_____	med precipitation
50	1.0M Li Sulphate	_____	15% PEG 8000	_____	heavy precipitation

a. Final concentration of precipitant used to achieve the result listed.
b. Condition 9 produced two crystals in the single droplet.
c. Condition 16 produced a shower of splinters that have arisen from numerous nucleation points within the droplet.
d. Condition 25 produced an unusual crystal. Numerous crystalline plates appear to be joined together to form this crystal. X-ray diffraction analysis of this crystal was not successful.

A rapid screening method (generally described in McPherson, 1982, In: Preparation and Analysis of Protein Crystals, 1982, pp. 94-97, John Wiley and Sons, pub.; and *J. Crystal Growth* , vol. 122, pp. 161-167, 1992) was used. Briefly, hanging drop vapor diffusion experiments were performed using 24-well culture plates. Droplets (about 3 μl) containing about 3 mg/ml of PsFcγRIIa in an equal volume of a mother-liquor were suspended from siliconized coverslips inverted into 24-well tissue culture plates well. The droplets were equilibrated at about 22°C against about 1 ml mother-liquor. Controlled temperature incubation was performed in chambers (available from Linbro Inc, distributed by ICN Inc, Costa Mesa CA) at about 22°C. Successful PsFcγRIIa crystallization was performed using the mother-liquor 0.2 M ammonium acetate, 0.1 M citrate pH 5.6 and 30% PEG 4000, at 22°C for between about 3 to about 9 days, or up to 9 months depending upon the purity and concentration of

the PsFcγRIIa, resulting in the production of orthorhombic crystals.

Successful PsFcγRIIa crystallization was also performed using the mother-liquor 0.1 M HEPES pH 7.5 with 1.5 M lithium sulphate, at 22°C for between about 3 to about 9 days, or up to 9 months depending upon the purity and concentration of the PsFcγRIIa, resulting in the production of a series of rod-like splinters of defined structure. The rod-like splinters were analyzed by X-ray diffraction.

B. X-ray Diffraction of Crystalline PsFcγRIIa and Determination of Electron Density Map

The PsFcγRIIa crystals produced as described above in section A were mounted in rayon loops and cryo-cooled to -165°C in mother liquor containing 20% glycerol. Twelve heavy atom compounds which sampled a broad range of activities were tested for binding to PsFcγRIIa. PIP (Di-μ-iodo bis[ethylenediamine] di Platinum(II) nitrate) was found to be reactive. Crystals were derivatized by soaking overnight in mother liquor containing about 5 mM PIP. Diffraction measurements were made with a M18XHF rotating anode generator (Siemens, Germany) operating at about 40 KV and about 50 mA and using Ni filtered CuKγ radiation. The generator was equipped with Franks mirrors (Molecular Structure Corporation, USA), a low-temperature system (Molecular Structure Corporation, USA) and RAXIS IIC and IV image plate detectors (Rigaku, Japan).

The crystals belong to the space group $P2_12_12$ (a = 78.80 Å, b = 100.55 Å, c = 27.85 Å) and diffracted to about 2.4 Å resolution with an R(merge) of 0.065. $R(\text{merge}) = S(I_i-(IS))/I_i$ summed over all independent reflections where I = intensity. Native and derivative data were collected at 45 minute exposures with an oscillation range of about 1°. Diffraction

intensities were integrated using DENZO (Otwinowski, et al., *Methods in Enzymology*, vol. 276, p. 307, 1996) and scaled with SCALEPACK (Otwinowski, et al., *ibid.*). A single heavy atom binding site was located by inspection of isomorphous and anomalous difference Patterson maps (Blundell, et al., In: Protein Crystallography., Horecker, B., Kaplan, N. O., Marmur, J., Scheraga, H. A., Eds., Academic Press, New York, 1976) calculated with the PROTEIN system (Steigeman, Ph.D. Thesis, Technical University, Munich, 1974). Heavy atom parameters were refined and phases were determined in a method of Single Isomorphous Replacement with Anomalous Scattering using the program SHARP (Statistical Heavy-Atom Refinement and Phasing (de La Fortelle, et al., *Methods in Enzymology*, vol. 276, p. 472, 1996). Merged data in the range of about 18 to about 2.7 Å resolution had an isomorphous R-factor of about 0.162, figure of merit for centric reflections 0.308 and acentric reflections 0.247 and phasing power of 1.127 for centric reflections and 1.081 for acentric reflections (Blundell, *ibid.*). Phases were modified in a protocol of solvent flattening (Wang, *Methods in Enzymology*, vol. 115, p. 90, 1985) and histogram mapping (Zhang, et al., *Acta Crystallography*, vol. A46, p. 377, 1990) in the density modification package DM (Cowtan, *Joint CCP4 and ESF-EACBM Newsletter on Protein Crystallography*, vol. 31, p. 34, 1994) in the CCP4 suite of programs (Cowtan, *ibid.*). 2Fo-Fc electron-density maps were displayed using the graphical display program O (Jones et. al., *Acta Crystallography*, vol. A47, p. 110, 1991). Secondary structural features could be identified at this stage, however the map was difficult to fully interpret and trace of the polypeptide. To produce a simplified representation of the electron density, the map was skeletonised (Greer, *J. Mol. Biol.*, vol. 82, p. 279, 1974)

using the program BONES (Jones, et al., *ibid.*). Coordinates of Killer Inhibitory receptor (Fan, et. al., *Nature*, vol. 389, p. 96, 1997) and were used as a reference to trace the polypeptide and generate a partial model. To calculate subsequent maps density modified phases and phases calculated from the model were combined by the Free-Sim method (Sim, *Acta Crystallography*, vol. 13, p. 511, 1960).

Additional data for structure refinement were collected at beam line X4A of the National Synchrotron Light Source at Brookhaven National Laboratory (Upton, New York). Using radiation with a wavelength of about 1.058 Å, data were collected on Fuji image plates as exposures of about 100 seconds and oscillation ranges of about 1°. Diffraction images were digitized with a BAS 2000 scanner (Fuji, Japan) and processed as described above, giving an *R*(merge) of 0.038 for data between about 10 Å and about 1.7 Å resolution. Structure refinement was performed with the XPLOR system (Brunger, et al., *Science*, vol. 235, p. 458, 1987) using protocols including individual temperature factor, energy minimization and slow-cool simulated annealing refinement with bulk solvent correction.

The refined structure of PsFcγRIIa contains all amino acid residues from 1 to 170, together with 33 solvent molecules. The crystallographic residual R-factor and Free R-factor are about 0.253 and about 0.326 respectively for data of from about 7 Å to about 2.0 Å resolution (Brunger, 1987, *ibid.*). Root mean squared deviations from ideality for bond lengths was about 0.01 Å and about 1.45° for angles (Brunger, et al., *Nature*, vol. 355, p. 472, 1992). The resulting data set of the atomic coordinates for PsFcγRIIa is shown in Fig. 4.

C. PsFcγRIIa Structure

Using the atomic coordinates listed in Table 1, a structure of a dimer of PsFcγRIIa was derived. The structures were computer generated using MOLSCRIPT 2.0 program (available from Avatar Software AB, Heleneborgsgatan 21C, SE-11731 Stockholm, Sweden). The crystal structure reveals PsFcγRIIa in a dimeric form having two 170 amino acid monomers. The two monomers are structurally identical.

The structure of the PsFcγRIIa residues 1 to 170 consists of two immunoglobulin constant region 2 (C2) type immunoglobulin domains and each domain is comprised of two antiparallel b-sheets, pinned together by a disulfide bond. The first strand of each domain (A strand) is broken in the middle with part forming sheet I (ABE strands) and part forming sheet II (A'GFCC' strands). This structural feature occurs in immunoglobulin variable region (V) type domains and in the natural killer inhibitory receptor (KIR) but not in other C2 domains. The two immunoglobulin-like domains of PsFcγRIIa are quite similar to each other with the rms difference in Ca positions of 1.28 Å for 68 residues. Major differences are in the loops at the N-terminal end of the molecule (BC, C'E and FG loops) and in the position on the C' strand. Some of these loops have been implicated in binding Fc.

The region of association of the two domains in the PsFcγRIIa structure is quite bent, with the angle between the major axes of the domains being approximately 52° . This bend is more severe than other immunoglobulin super family members including 60° for KIR. The domain interface is composed of strands A' from Domain 1 and A & B from Domain 2, where sheet II from each domain forms the interface. Residues whose non-hydrogen atoms lie within 4 Å of the other domain. Water

molecules 201, 211, 217-220, 227 and 232 also lie in the interface region.

Certain structural characteristics indicate that dimer formation between two PsFcγRIIa molecules in the crystal is a preferred interaction. Although the structure of only one PsFcγRIIa molecule (residues 1 to 170) of the crystal has been determined, each PsFcγRIIa molecule comprising the dimer in the crystal is related to the other PsFcγRIIa molecule in the crystal by a 2-fold crystallographic axis. By applying the transformation:

$$\begin{pmatrix} -1 & 0 & 0 \\ 0 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \cdot \begin{pmatrix} x \\ y \\ z \end{pmatrix} + \begin{pmatrix} 0. \\ 100.55 \\ 0. \end{pmatrix}$$

to the coordinates given in Table 1 a dimer is formed (Fig. 4), with the interface composed of sheet II from each PsFcγRIIa molecule. The coordinates of the FcγRIIa dimer are represented in Table 2. The contact area is substantial (~400 Å^2) and this interface has more hydrophobic character than the Domain 1-Domain 2 interface. Residues whose non-hydrogen atoms lie within 4 Å of the other molecule or water molecule 207 on the axis are 119, 121, 124-126, 150, 152 and 158-161, with residues 148, 163 and 164 also making a close approach. This type of domain interaction is not novel for immunoglobulins because V regions of antibodies pair in a similar manner. This type of interaction, however, has not been observed for C2 domains. Due to the size and character of this contact it suggests that this hitherto unforeseen interaction has physiological relevance.

Additional structural considerations support this conclusion. The crystal structure described above suggests that, if an FcγRIIa molecule is oriented with the C-terminus toward a cell membrane containing the receptor, then the

putative Fc binding region of the receptor does not point away from the cell but to one side. Thus, forming a dimer between two FcγRIIa molecules in a cell membrane, the two potential Fc binding regions are brought near each other and point away from the cell because the dimer axis points away from the cell. This orientation positions the potential Fc binding sites ideally for interaction with ligand (i.e., IgG), enabling the ligand binding site to be composed of regions from two receptor molecules. Involving two receptor molecules in a binding event has implications for cellular signal transduction because dimerization of the extracellular domains would bring the cytoplasmic domains of the two receptors together to initiate a cellular signal transduction response.

Fig. 4 shows a graphical representation of the dimer of PFcγRIIa. Two Ig-like domains (Domains 1 and 2) are shown in each monomer of each dimer. The first amino acid residue of the amino (NH2) terminus of the protein is indicated by residue number 0. The last amino acid residue of the carboxyl (COOH) terminus of the protein is indicated by residue 170. Numbering of amino acid residues from the NH2 terminus to the COOH terminus are shown where possible. Certain residues were omitted for clarity. Fig. 5 illustrates the amino acid residues that comprise each beta sheet of Domain 1 and Domain 2 of PFcγRIIa. In Domain 1, strand A includes residues 5-10, strand A' includes residues 14-17, strand B includes residues 20-28, strand C includes residues 37-41, strand C' includes residues 44-46, strand E includes residues 52-58, strand F includes residues 63-70 and strand G includes residues 78-84. In Domain 2, strand A includes residues 87-92, strand A' includes residues 95-97, strand B includes residues 102-110, strand C includes residues 117-122, strand C' includes residues 125-131, strand E includes residues 134-139, strand

F includes residues 146-155, strand G includes residues 158-162 and strand G' includes residues 163-169. Fig. 6 shows the stereo view of the structure of the polypeptide shown in Fig. 4 in stereo.

A graphical representation of the three dimensional structure shown in Fig. 4 was used to determine the location of amino acid residues involved in the binding of FcγRIIa to IgG. Fig. 7 shows the location of the mutated alanine residues (indicated by the black balls) involved in the loss of binding of FcγRIIa to IgG. The residues shown in Fig. 7 were identified using recombinant mutants of FcγRIIa, in which residues were replaced with alanine and were found to disrupt or decrease IgG binding to FcγRIIa (described in Hulett, et al., 1994, *ibid.*; Hulett, et al., 1995, *ibid.*). Fig. 8 shows an expanded view of the IgG binding region showing position and side chains of amino acids involved in IgG binding to FcγRIIa, as shown by production of nucleic acid molecules having mutations in this region that encode an FcγRIIa protein having reduced binding to IgG.

Fig. 9 shows an expanded view of the IgG binding region and the amino acid residues, which when mutated to alanine, improve IgG binding.

The interface between the two dimers illustrated in the graphical representation of the three dimensional structure shown in Fig. 4 was further analyzed. Fig. 10 shows an expanded view of the region of one FcγRIIa monomer that contributes to the dimer interface. In Fig. 10, the region has been rotated about 90° in x, where x is horizontal to the page. The γ carbon of amino acid residues contributing to the interface are shown as black balls and are numbered according to the residue numbering of SEQ ID NO:3.

Example 7

This example describes analysis of N-terminal sequence of PsFcγRIIa protein by electrospray ionization mass spectrometry.

To determine the N-terminal amino acid sequence of PsFcγRIIa protein, the heterogeneity of the N-linked glycosylation mass spectrometry was carried out as follows. Various samples were prepared by combining about 1 to about 100 picomolar (pmol) of PsFcγRIIa protein in about 2 μl to about 4 μl of 50% CH_3CN containing 0.1% acetic acid. The samples were infused at a flow rate of about 0.2 μl/min into a Perkin Elmer Sciex API-300 triple quadrupole mass spectrometer fitted with a micro-ionspray ion source and operated in the Q1 scan mode. The mass scale was calibrated at eight points over the 3000 u mass range, to an accuracy equivalent to ± 0.01%, using singly charged poly(propylene glycol) ions. Mass spectra (typically 30-100 scans) were recorded over the mass rand m/z200 u to 3000 u with a constant peak width of 0.6 u (peak width at half-height), and were processed by signal-averaging, manual mass determination and transformation using PE-Sciex Biomultiview software. The results indicated that two major species of protein having different N-terminal sequence were present in the solution of purified PsFcγRIIa protein. One species had a N-terminal sequence comprising SEQ ID NO:4 and the other species had a N-terminal sequence with an additional Ala at the 5' end of the protein (e.g., Ala-Ala-Pro-).

Example 8

This example describes the modeling of the three dimensional structure of the Fcε receptor I (FcεRI) in both monomeric and dimeric forms.

The extracellular regions of the human Fc epsilon receptor type I (FcεRI) and the human Fc gamma Receptor type

II a (FcγRIIa) show a sequence identity of about 38% (for 172 residues). The final sequence alignment used in this modeling work is shown in Fig. 13. The X-ray crystallographic structure of the human FcγRIIa was determined by the present inventors (Table 1). The 3-dimensional coordinates of FcγRIIa in Table 1 differ from those used as the template to build a 3-dimensional model of the human FcεRI by orientation of the imidazole ring of His 108 and one round of refinement.

Secondary structure prediction performed on FcεRI confirmed the validity of the alignment given in Fig. 13 and showed the pattern of β strands is the same in both FcεRI and FcγRIIa. The secondary structure prediction methods used were PHD (B. Rost et al., CABIOS, vol. 10, 266-275(1994)) and PREDATOR (D. Frishman and P. Argos, Proteins, vol. 27, 329-335(1997)).

MODELER (A. Sali and T.L. Blundell, J. Mol. Biol., vol. 234, 779-815(1993)) as implemented in the InsightII_Homology software package (Insight II (97.0), MSI, San Diego) was used to generate 3-dimensional models of FcεRI using a number of different initial sequence alignments and two structural templates of FcγRIIa. One of the structural templates was the 3-dimensional coordinates of FcγRIIa where, for the residues that had alternative side-chain conformations (residue numbers 10, 21, 33, 57, 60, 61, 65, and 89), the conformations labeled 'A' were selected while in the other template the conformations labeled 'B' were selected. In each Modeler run 5 structural models of FcεRI were generated. The following parameter values or options were used: 'library_schedule' of 1, 'max_var_iterations' of 300, 'md_level' of 'refine1', 'repeat_optimization' of 3, and 'max_molpdf' of 1e6. The best model from these runs had the sequence alignment given in Fig. 13, and used the structural template of FcγRIIa, where

residues 10, 21, 33, 57, 60, 61, 65, and 89 had side-chains in the 'A' conformation. The criteria for judging the 'best' model included the lowest value of the Modeler objective function (or -1.0xln(Molecular probability density function=Mpdf)), 'well-behaved' PROSAII (M. Sippl, Proteins, vol. 17, 355-362(1993)) residue energy plot for the model (for example, negative residue energy scores throughout the sequence), and 'well-behaved' PROFILES-3D (J.U. Bowie et al., Science, vol. 253, 164-170(1991)) local 3D-1D compatibility score plot (for example, positive plot scores throughout the sequence).

Next, Modeler was used to generate 20 different structural models of FcεRI using the sequence alignment and template selected above, and using the parameter values and options listed above. The model with the lowest -ln(Mpdf) value (i.e. 957.2) was then selected as the template to generate structural models of the FcεRI sequence in the next cycle of Modeler runs. At the end of four such cycles, the 'best' 3-dimensional model of the FcεRI structure had a -ln(Mpdf) value of 643.2. This was selected as the final structural model of the FcεRI monomer, and the corresponding heavy (non-hydrogen) atom cartesian coordinates are represented in Table 3. A 'worm' representation of the structure is shown in Fig. 14. This structure was validated with the programs PROSAII, PROFILES-3D, and PROCHECK (R.M. Laskowski et al., J.Appl.Cryst. vol. 26, 283-291(1993)).

Finally, the same coordinate transformation that generates a dimer from the FcγRIIa monomer was applied to the above model of the FcεRI monomer. The interface of the resultant dimer was optimized by selecting alternative rotamers for the Glu 161 and Tyr 150 residues with the Auto_Rotamer option of the InsightII_Homology module (MSI, San

Diego), and then adding hydrogen atoms to the dimer model and energy minimizing it keeping all heavy atoms fixed, except for Tyr 150 and Glu 161 where only the backbone atoms were kept fixed. The program Discover v. 2.98 (MSI, San Diego) was used for the energy minimization with the CFF91 force field and a distance-dependent dielectric constant of 1.0 x r, and the minimization was done with the conjugate gradients method until the maximum energy gradient was less than 0.10 kcal/Å. The cartesian coordinates of the resultant model of the FcεRI dimer are represented in Table 4 and a 'worm' representation of the dimer model is shown in Fig. 15. This model of the FcεRI dimer has a shape complementarity or Sc value(see M.C. Lawrence and P.M. Colman, *J. Mol. Biol.*, vol. 234, 946-950(1993)) at the monomer-monomer interface of 0.64 and an electrostatic complementarity value - for the fully solvated case, using the Spearman correlation coefficient - (see A. J. McCoy, V.C. Epa, and P.M. Colman, *J. Mol. Biol.*, vol. 268, 570-584(1997)) or ECSFS at the monomer-monomer interface of 0.08. These compare with 0.80 and 0.32, respectively, for the FcγRIIa dimer. These reduced complementarity values for the FcεRI dimer compared to the FcγRIIa dimer indicates that formation of the FcεRI dimer, as built herein, is energetically less favored than it is in the FcγRIIa case. However, we note that the interaction with the β or γ chains of the FcεRI has not been taken into consideration. Fig. 16 shows a molecular surface representation of the FcεRI dimer model.

The model of the 3-dimensional structure of FcεRI monomer represented by the coordinates in Table 3 or the FcεRI dimer represented by the coordinates in Table 4 may be used as a basis for drug design in the same manner as that described for the crystallographic coordinates of FcγRIIa herein.

Example 9

The following example demonstrates the crystallization of the Fcε receptor I (FcεRI).

Recombinant molecule pFcεRI, containing a nucleic acid molecule encoding a soluble form of human FcεRI (sFcεRI) operatively linked to baculovirus polyhedron transcription control sequences was produced as described for the pFcγRIIa molecule in Examples 1-3. Briefly, the recombinant soluble FcεRI was generated by placing a translation termination codon at the position 173 which normally encodes a Pro in the sequence Ile, Lys, Ala, Pro, at the C-terminal end of the second domain as set forth in the sequence represented in Fig. 13. Soluble FcεRI was expressed in baculovirus expression system 'Bac to Bac' supplied by GIBCO. Infections of SF21 or Sf9 cells were performed as described by the manufacturer. Briefly, the recombinant FcγRIIa molecule was ligated into pVL1392 baculovirus shuttle plasmid (available from Pharmingen, San Diego, CA) to produce a recombinant molecule referred to herein as pVL-sFcεRI. The recombinant molecule pVL-sFcεRI was subsequently co-transfected with baculovirus strain *AcMNPV* (available from Pharmingen) into *Spodoptera frugiperda* 21 (Sf-21) cells (available from Invitrogen Corp., San Diego, CA) to produce *S. frugiperda*:pVL-sFcεRI cells. 65-70 hours following infection, supernatants were harvested and soluble receptor was purified by affinity chromatography on an anti-FcεRI antibody (3B4) monoclonal antibody-sepharose 4B affinity column, similar to the processes described for FcγRIIa in Example 5. The column was washed with 10 mM Tris pH 7.5 and eluted with 0.1 M sodium acetate, 0.5M sodium chloride, pH4.0. The purified protein was concentrated and used in crystallization trials as described above for FcγRIIa

(Example 6). Crystals were produced under several conditions as follows:

(a) 0.2M calcium acetate; 0.1M sodium cacodylate, pH6.5; 18% w/v polyethylene glycol (PEG) 8000;

(b) 0.1M sodium cacodylate, pH6.0 or pH5.5; 10% v/v 2-propanol; 20% w/v PEG 4000;

(c) 0.2M tri sodium citrate dihydrate; 0.1M sodium cacodylate pH6.5; 30% v/v 2-propanol.

The structure of the FcεRI crystals obtained by these experiments can be used in X-ray diffraction analysis and/or in molecular replacement and modeling strategies as described herein.

Example 10

This example describes the modeling of the three dimensional structure of the Fcγ receptor III (FcγRIIIb) in monomeric form.

The extracellular regions of the human Fc gamma receptor type III (FcγRIIIb) and the human Fc gamma Receptor type II a (FcγRIIa) show a sequence identity of about 53% (for 174 residues). The final sequence alignment used in this modeling work is shown in Fig. 18. The X-ray crystallographic structure of the human FcγRIIa was determined by the present inventors (Table 1) as described in Examples 1-7. The 3-dimensional coordinates of FcγRIIa in Table 1 differ from those used as the template to build a 3-dimensional model of the human FcγRIIIb by orientation of the imidazole ring of His 108 and one round of refinement.

MODELER (A. Sali and T.L. Blundell, J. Mol. Biol., vol. 234, 779-815(1993)) as implemented in the InsightII_Homology software package (Insight II (97.0), MSI, San Diego) was used to generate 3-dimensional models of FcγRIIIb using a number of

different initial sequence alignments and two structural templates of FcγRIIa. The structural template that was used was the 3-dimensional coordinates of FcγRIIa where, for the residues that had alternative side-chain conformations (residue numbers 10, 21, 33, 57, 60, 61, 65, and 89), the conformations labeled 'A' were selected. In each Modeler run 5 structural models of FcγRIIIb were generated. The following parameter values or options were used: 'library_schedule' of 1, 'max_var_iterations' of 300, 'md_level' of 'refine1', 'repeat_optimization' of 3, and 'max_molpdf' of 1e6. The best model from these runs had the sequence alignment given in Fig. 18, and used the structural template of FcγRIIa, where residues 10, 21, 33, 57, 60, 61, 65, and 89 had side-chains in the 'A' conformation. The criteria for judging the 'best' model included the lowest value of the Modeler objective function (or -1.0xln(Molecular probability density function=Mpdf)), 'well-behaved' PROSAII (M. Sippl, Proteins, vol. 17, 355-362(1993)) residue energy plot for the model (for example, negative residue energy scores throughout the sequence), and 'well-behaved' PROFILES-3D (J.U. Bowie et al., Science, vol. 253, 164-170(1991)) local 3D-1D compatibility score plot (for example, positive plot scores throughout the sequence).

Next, Modeler was used to generate 20 different structural models of FcγRIIIb using the sequence alignment and template selected above, and using the parameter values and options listed above. The model with the lowest -ln(Mpdf) value (i.e. 933.3) was then selected as the final structural model of the FcγRIIIb monomer, and the corresponding heavy (non-hydrogen) atom cartesian coordinates are represented in Table 5. This structure was validated with the programs

PROSAII, PROFILES-3D, and PROCHECK (R.M. Laskowski et al., J.Appl.Cryst. vol. 26, 283-291(1993)).

The model of the 3-dimensional structure of FcγRIIIb monomer represented by the coordinates in Table 5 may be used as a basis for drug design in the same manner as that described for the crystallographic coordinates of FcγRIIa herein.

While various embodiments of the present invention have been described in detail, it is apparent that modifications and adaptations of those embodiments will occur to those skilled in the art. It is to be expressly understood, however, that such modifications and adaptations are within the scope of the present invention, as set forth in the following claims.